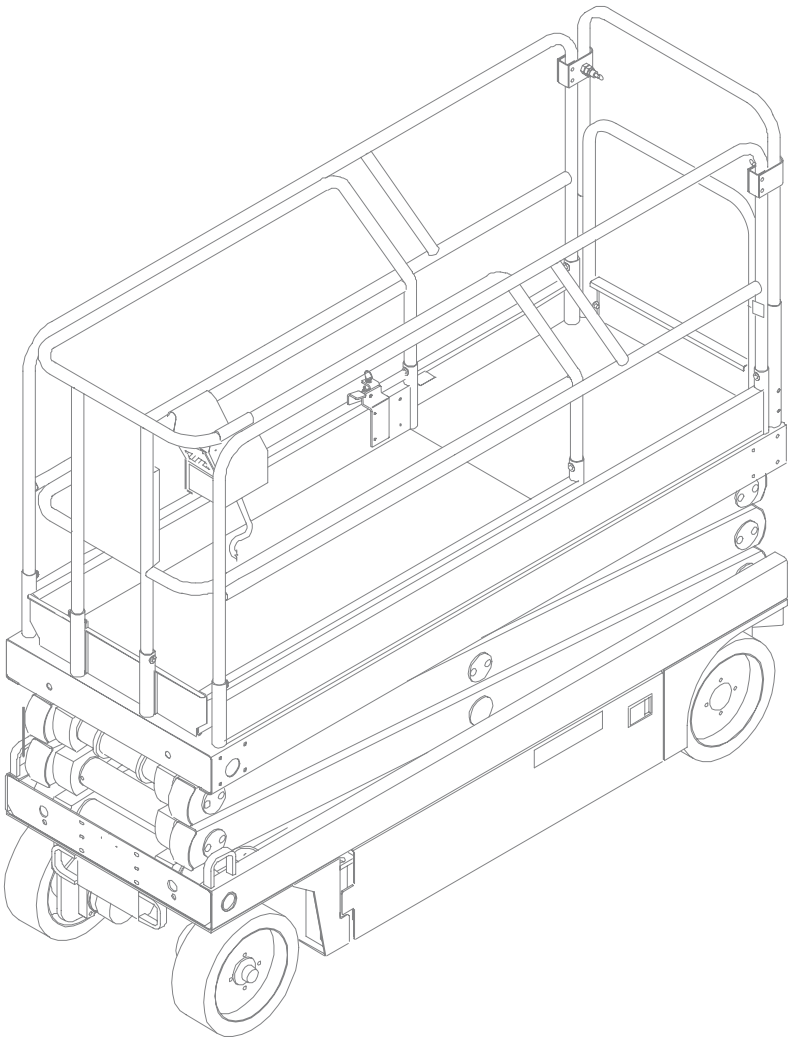
SERVICE & PARTS MANUAL

Snorkel



S2633

WORK PLATFORM

Serial Number 51089
Manual Serial Number 500422-103

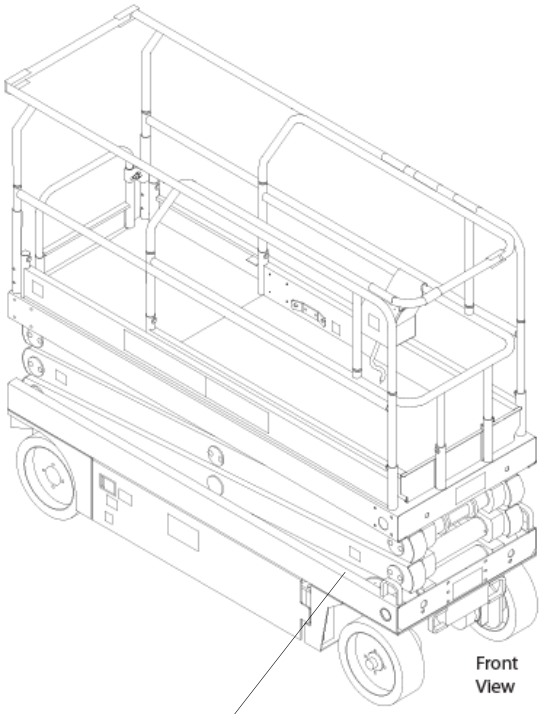
S2633

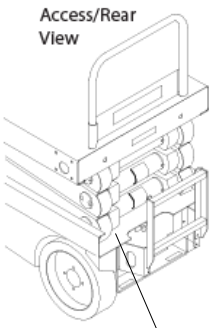
Serial Number 51089 – Current

English

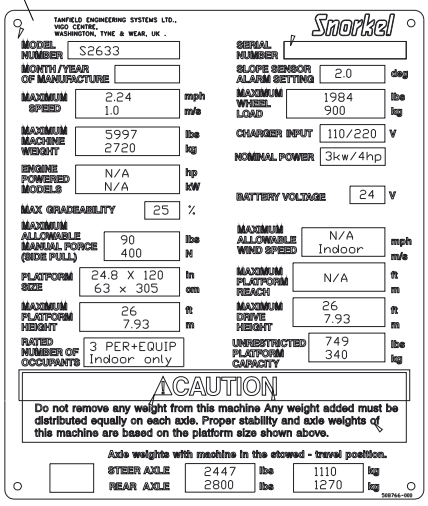
When contacting Snorkel for service or parts information, be sure to include the MODEL and SERIAL NUMBER from the equipment Nameplate.

Should the nameplate be missing, the SERIAL NUMBER is also stamped on top of the chassis above the front axle pivot.





Stamped Serial Number


TANFIELD ENGINEERING SYSTEMS LTD.,
VIGO CENTRE,
WASHINGTON, TYNE & WEAR, UK .
Snorkel
MODEL NUMBER S2633
SERIAL NUMBER
MONTH / YEAR OF MANUFACTURE
SLOPE SENSOR ALARM SETTING 2.0 deg
MAXIMUM SPEED 2.24 1.0 mph m/s
MAXIMUM WHEEL LOAD 1984 900 lbs kg
MAXIMUM MACHINE WEIGHT 5997 2720 lbs kg
CHARGER INPUT 110/220 V
NOMINAL POWER 3kw/4hp
ENGINE POWERED MODELS N/A N/A hp kW
BATTERY VOLTAGE 24 V
MAX GRADEABILITY 25 %
MAXIMUM ALLOWABLE MANUAL FORCE (SIDE PULL) 90 400 lbs N
MAXIMUM ALLOWABLE WIND SPEED N/A Indoor mph m/s
PLATFORM SIZE 24.8 X 120 63 x 305 in cm
MAXIMUM PLATFORM REACH N/A ft m
MAXIMUM PLATFORM HEIGHT 26 7.93 ft m
MAXIMUM DRIVE HEIGHT 26 7.93 ft m
RATED NUMBER OF OCCUPANTS 3 PER+EQUIP Indoor only
UNRESTRICTED PLATFORM CAPACITY 749 340 lbs kg
CAUTION
Do not remove any weight from this machine Any weight added must be distributed equally on each axle. Proper stability and axle weights of this machine are based on the platform size shown above.
Axle weights with machine in the stowed - travel position.
STEER AXLE 2447 lbs 1110 kg
REAR AXLE 2800 lbs 1270 kg
508744-000

Snorkel

www.snorkelusa.com

Section 3

SERVICE AND REPAIR

INTRODUCTION

This section contains instructions for the maintenance of the Work Platform.

Refer to the General Information section for information relevant to all **Snorkel** work platforms.

Referring to the Operator Manual will aid in understanding the operation and function of the various components and systems of the work platform, and help in diagnosing and repair of the machine.

⚠ WARNING ⚠

Be sure to read, understand and follow all information in the Operation Section of this manual before attempting to operate or perform service on any Work Platform.

⚠ DANGER ⚠

Never perform service on the work platform in the elevating assembly area while platform is elevated without first blocking the elevating assembly.

DO NOT stand in elevating assembly area while deploying or storing brace.

TABLE OF CONTENTS

3-1 Supporting Elevating Assembly 3-3
Installation 3-3
Removal 3-3
3-2 Preventative Maintenance 3-3
3-3 Preventative Maintenance Check List 3-4
3-4 Parts Location 3-5
3-5 General Lubrication 3-6
3-6 Batteries 3-6
Battery Maintenance 3-7
Battery Replacement 3-7
3-7 Safety Ancillary Equipment 3-8
Proximity Switch 3-8
Tilt Sensor 3-8
Emergency Lowering 3-8
3-8 Hydraulics 3-9
Hydraulic Oil Tank And Filter 3-9
Hydraulic Pump 3-10
Main Hydraulic Manifold 3-11
Setting Hydraulic Manifold Pressures 3-12
3-9 Cylinders 3-13
Depression Cylinder 3-13
Steering Cylinder 3-14
Lift Cylinder 3-15
3-10 Drive Motors 3-16
Removal 3-16
Installation 3-16
3-11 Controls 3-17
Platform Controls 3-17
Chassis Controls 3-18

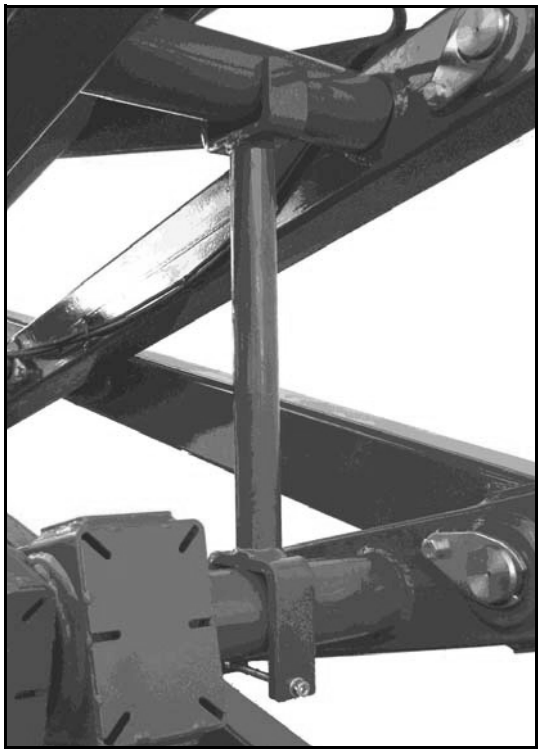
3-1 Supporting Elevating Assembly

⚠ WARNING ⚠

Never perform service on the work platform in the elevating assembly area while platform is elevated without first blocking the elevating assembly.

***DO NOT** stand in elevating assembly area while deploying or storing brace.*

Figure 3-1: Elevating Assembly Brace



Installation

1. Park the machine on a firm, level surface.
2. Pull Chassis Emergency Stop Switch to the ON position.
3. Pull Platform Emergency Stop Switch to the ON position.
4. Turn and hold the Chassis Key Switch to CHASSIS.
5. Push the Chassis Lift/Lower Switch to LIFT to elevate the platform until the maintenance brace can be rotated to the vertical position.
6. From the rear of the machine, lift the maintenance brace from its stowed position. Rotate upward and outward, then down until it is hanging vertically below its attachment point.
7. Lower the platform by pushing the Chassis Lift/Lower Switch to LOWER and gradually lower the platform until the maintenance brace is supporting the platform.

Removal

1. Using the Chassis Controls, gradually elevate the platform until the maintenance brace is clear.
2. Rotate the maintenance brace outward and upward over its attachment point until it rests in the stowed position.
3. Lower the platform by pushing the Chassis Lift/Lower Switch to LOWER to completely lower the platform.

3-2 Preventative Maintenance

The complete inspection consists of periodic visual and operational checks, along with periodic minor adjustments to assure proper performance. Daily inspection will prevent abnormal wear and prolong the life of all systems. The inspection and maintenance schedule is to be performed at regular intervals. Inspection and maintenance shall be performed by personnel who are trained and familiar with mechanical and electrical procedures.

⚠ WARNING ⚠

Before performing preventative maintenance, familiarize yourself with the operation of the machine.

Always block the elevating assembly whenever it is necessary to enter the scissor assembly to perform maintenance while the platform is elevated.

The preventative maintenance table has been designed for machine service and maintenance repair. Please copy the following page and use the table as a checklist when inspecting the machine for service.

3-3 Preventative Maintenance Check List

Preventative Maintenance Key

Interval

Daily=each shift or every day

50h/30d=every 50 hours or 30 days

250h/6m=every 250 hours or 6 months

1000h/2y=every 1000 hours or 2 years

Y=Yes/Acceptable

N=No/Not Acceptable

R=Repaired/Acceptable

Preventative Maintenance Report

Date: _____

Owner:_____

Model No: _____

Serial No: _____

Serviced By: _____

Service Interval: _____

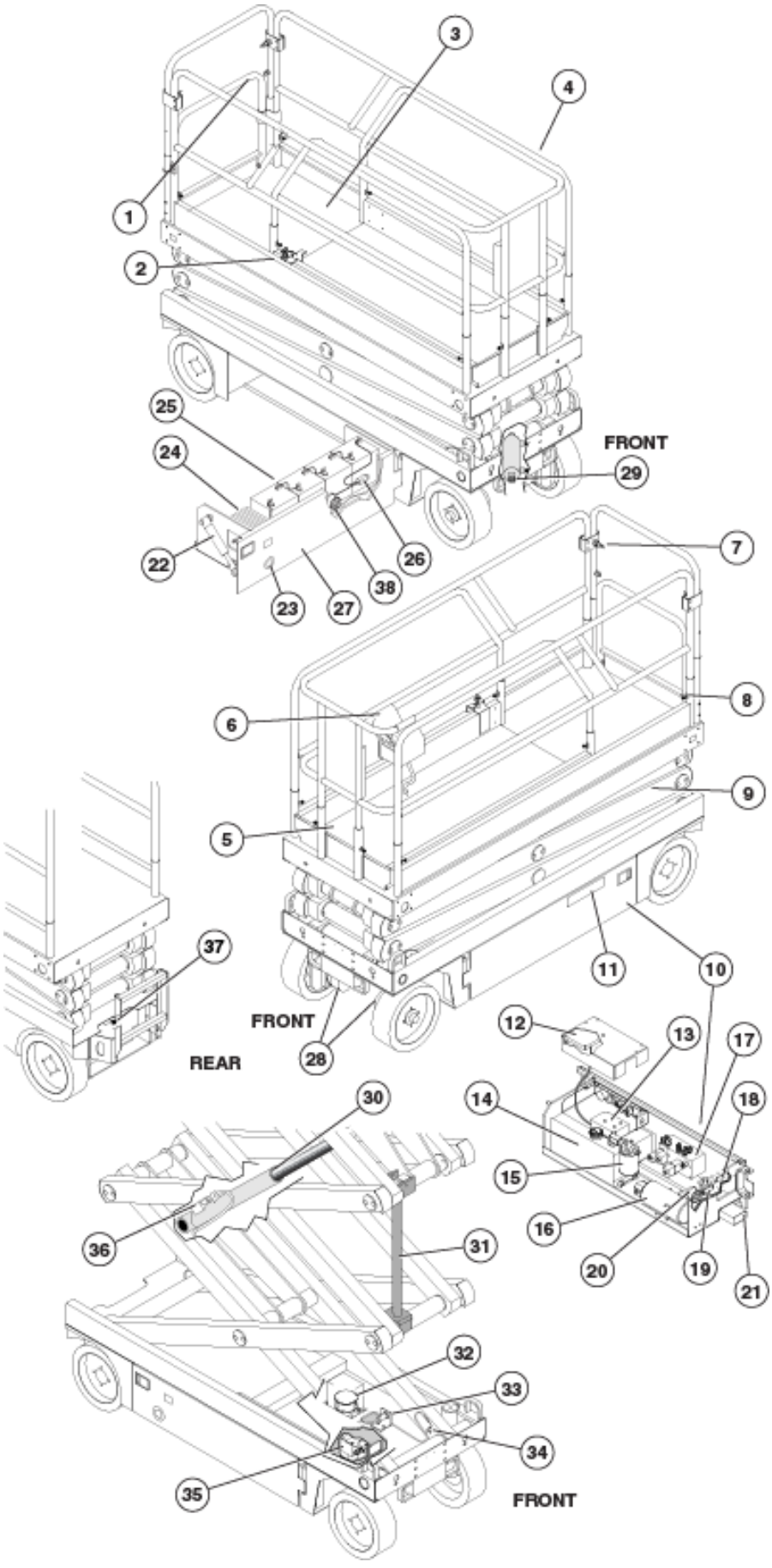
COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Battery System	Check electrolyte level	Daily			
	Check battery cable condition	Daily			
	Charge batteries	Daily			
	Check charger condition & operation	Daily			
	Check specific gravity	6m			
	Clean exterior	6m			
	Clean terminals	6m			
Hydraulic Oil*	Check oil level	Daily			
	Change Filter	6m			
	Drain and replace oil	2y			
Hydraulic System	Check for leaks	Daily			
	Check hose connections	30d			
	Check hoses for exterior wear	30d			
Drive Motors	Check for operation and leaks	Daily			
Emergency Down	Check procedure for Emergency Down	Daily			
Hydraulic Pump	Check for fitting leaks	Daily			
	Wipe clean	30d			
	Check for leaks at mating surfaces	30d			
	Check mounting bolts for proper torque	6m			
Controller	Check condition & operation	Daily			
Platform Deck & Rails	Check fasteners for proper torque	Daily			
	Check welds for cracks	Daily			
	Check condition of deck	Daily			
	Check entry way closure	Daily			

COMPONENT	INSPECTION OR SERVICES	INTERVAL	Y	N	R
Elevating Assembly	Inspect for external damage, dents, loose rivets or cracks	Daily			
	Check welds for cracks	Daily			
	Lubricate	30d			
Chassis	Check cables for pinch or rubbing points	Daily			
	Check welds for cracks	Daily			
	Check component mounting for proper torque	6m			
Lift Cylinder	Check for leaks	Daily			
	Check for proper torque	6m			
Entire Unit	Perform pre-operation inspection	Daily			
	Check for and repair collision damage	Daily			
	Lubricate	30d			
	Check fasteners for proper torque	6m			
	Check for corrosion; remove and repaint	6m			
Labels	Check for peeling, missing, or unreadable labels & replace	Daily			
Wheels	Check for loose components	Daily			
Steering System	Oil pivot pins	30d			
	Oil king pins	30d			
	Check steering cylinder for leaks	30d			
	Check hardware & fittings for proper torque	6m			
	Check Wheel Yoke Securing Bolt and Nut	30d			

*** NOTE: Use ISO #46 during summer and ISO #32 during winter.**

3-4 PARTS LOCATION

Figure 3-2: Parts Location



1. Entry Gate
2. Deck Lock Assembly
3. Work Platform
4. Fold Down Guardrails
5. Platform Extension
6. Platform Controls
7. Rear Guardrail Retaining Pin
8. Guardrail Retaining Pin
9. Elevating Assembly
10. Control Module
11. Chassis Controls
12. Circuit Board
13. Motor Controller
14. Hydraulic Fluid Reservoir
15. Hydraulic Fluid Filter
16. Hydraulic Pump and Motor
17. Main Valve Manifold
18. 175 AMP Fuse, Overload Protection
19. Solenoid, Motor Relay
20. Audible Alarm
21. Depression Mechanism
22. Depression Mechanism Cylinder
23. Battery Charger Plug
24. Battery Charger
25. Battery Pack
26. Cable Connector
27. Power Module
28. Drive Motors
29. Steering Cylinder
30. Lift Cylinder
31. Maintenance Brace
32. Level Sensor
33. Proximity Switch
34. Height Limit Switch
35. Series Parallel Valve
36. Emergency Lowering Valve
37. Emergency Lowering Valve Knob
38. Horn

3-5 General Lubrication

NOTE: Apply grease to each grease fitting

Figure 3-3: ***Steering Lubrication Points***

There are four lubrication points on the machine steering system - two on each steering pivot (see Figure).

Lubricate the steering pivots every 125 hours or three months.

1. Deploy the maintenance brace (see “Blocking the Elevating Assembly”).
2. Clean the grease fittings and surrounding area.
3. Using multipurpose grease in a grease gun, pump the grease into the fitting until grease just begins to appear at the edges of the pivot.
4. Wipe off any excess grease.

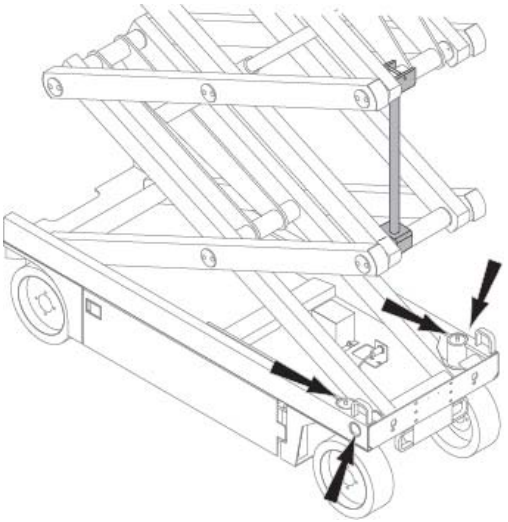
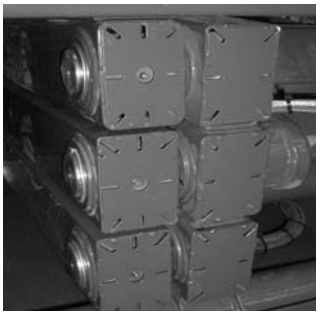


Figure 3-4: Lift Ram & Scissor Pin Lubrication Points



3-6 Batteries

The batteries are located in a slide-out tray in the rear of the machine. Electrical Energy for the motor is supplied by four 6 volt batteries wired in series for 24 volts DC. Correct care and maintenance of the batteries and motor will ensure maximum performance from the work platform.

CAUTION

If battery water level is not maintained, batteries will not fully charge, creating a low discharge rate.

⚠ WARNING ⚠

Hazard of explosive gas mixture. Keep sparks, flame and smoking materials away from batteries.

Always wear safety glasses when working with batteries.

Battery fluid is highly corrosive. Thoroughly rinse away any spilled fluid with clean water.

Always replace batteries with ***Snorkel*** *batteries or manufacturer approved replacements.*

Before disconnecting the battery negative (-) lead, make sure all switches are OFF. If ON, a spark will occur at the ground terminal which could cause an explosion if hydrogen gas or fuel vapors are present.

BATTERY MAINTENANCE

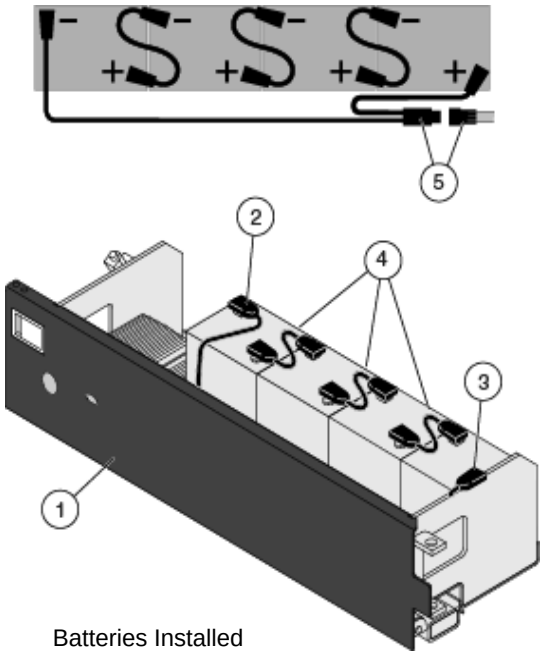
Refer to the *Operation Manual* included in this Service Manual for specific maintenance and charging instructions.

NOTE: If system voltage drops below 17 volts (on a 24 volt system), the charger will not recharge the batteries. If this extreme voltage drop occurs, disconnect and recharge each battery separately using a 6 volt charger to bring the voltage in each up to at least 4 1/2 volts.

BATTERY REPLACEMENT

Battery cables must be installed as shown in the Battery Cable Installation Diagram.

Figure 3-5: Battery Cable Installation Diagram



Batteries Installed

1. Turn the Chassis Key Switch to the OFF position and push the Chassis and Platform Emergency Stop Switches down to the OFF position.

NOTE: If switches are ON, a spark will occur at the ground terminal which could cause an explosion if hydrogen gas or fuel vapors are present.

2. Open the power module.
3. Disconnect battery pack connector.
4. Disconnect the battery negative (–) lead.

IMPORTANT: Disconnect the battery negative (–) lead first.

5. Disconnect the remaining battery leads.
6. Lift the batteries out of the module.

INSTALLATION

IMPORTANT: Connect the battery negative (–) lead last.

1. Verify that the Chassis Key Switch and the Chassis and Platform Emergency Stop Switches are in the OFF position.
2. Place the batteries into the power module.
3. Connect the battery to battery leads.
4. Connect the battery positive (+) lead.
5. Connect the battery negative (–) lead.
6. Connect the battery pack connector.

3-7 Safety Ancillary Equipment

Proximity Switch

Figure 3-6: Proximity Switch

The Proximity Switch cuts power to the High Speed Drive when the platform is elevated.

The switch is located on the left side of the chassis at the rear of the machine.

No adjustment of the switch should be necessary.

Level Sensor

Figure 3-7: Level Sensor

The Level Sensor is located on the chassis of the machine

These units are sealed and pre-set and require no recalibration or adjustment.

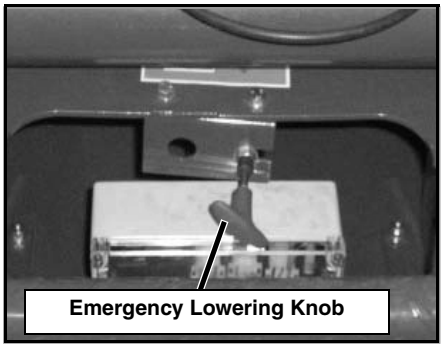
Emergency Lowering

⚠ WARNING ⚠

If the platform should fail to lower, NEVER climb down the elevating assembly.

Stand clear of the elevating assembly while operating the Emergency Lowering Valve Knob.

Figure 3-8: Emergency Lowering Knob



The Emergency Lowering Valve is mounted on the base of the lift cylinder. The cable is routed;

- from the valve,
- along the elevating assembly tube to the front of the machine,
- through the cable access hole to the rear of the machine.

Repair

1. Deploy the maintenance brace (see “Blocking the Elevating Assembly”).
2. Inspect the cable. Replace if damaged.
3. Inspect the valve. Replace if damaged.
4. Check for and clear any blockage in the orifice. Install the orifice with the beveled side toward the cylinder block.
5. Adjust the valve. At the cable mount, adjust the cable cover to stop the inner cable when the valve is fully open.
6. Store the maintenance brace and lower the platform.

3-8 HYDRAULICS

HYDRAULIC OIL TANK AND FILTER

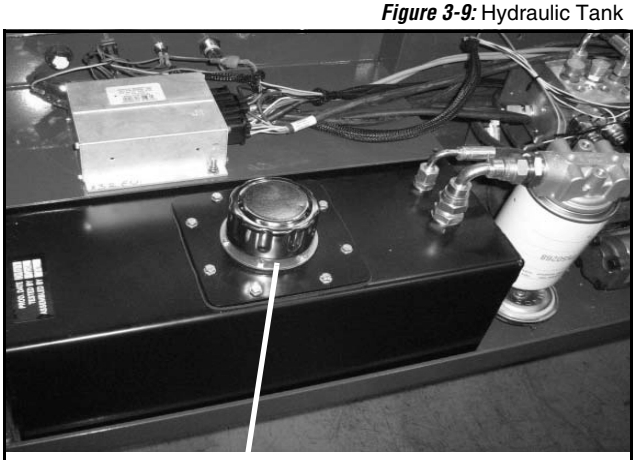
FLUID LEVEL

Check the fluid level daily.

With the platform fully lowered, open the control module and remove the reservoir breather/cap. Fluid should be at the full mark.

NOTE: Drain plug underneath tank

Figure 3-9: Hydraulic Tank



Filler Cap

OIL AND FILTER REPLACEMENT

Replace the filter every 250 hours or six months.

1. Unscrew the filter from the filter assembly.
2. Apply a thin film of clean hydraulic fluid to the gasket of the replacement filter.
3. Screw the replacement filter onto the filter head until gasket makes contact then turn filter ¾ of a turn.

⚠ CAUTION ⚠

The hydraulic oil may be of sufficient temperature to cause burns. Wear safety gloves and safety glasses when handling hot oil.

FLUID REPLACEMENT

Replace the hydraulic fluid every 1000 hours or two years.

1. Operate the machine for 10-15 minutes to bring the hydraulic fluid up to normal operating temperature.
2. Provide a suitable container to catch the drained fluid.
   - Hydraulic reservoir capacity: 15 L (**4 U.S. gal**).
3. Open the control module door.
4. Remove the drain plug and allow all the fluid to drain. Dispose of hydraulic fluid properly (contact your local fluid recycler).
5. Install the drain plug.
6. Fill the hydraulic reservoir with the appropriate hydraulic fluid until the fluid is up to the full mark on the dipstick.

- Refer to “Specifications” at the end of the *Operator Manual* included in this Service Manual to identify the proper fluid for your conditions.

FLUID OUTLET SCREEN

Clean or replace the outlet screen at the same time that the fluid is changed.

1. Drain the fluid (see “Fluid Replacement”).
2. Disconnect and plug the outlet hose to prevent foreign material from entering the hose.
3. Remove the suction screen. Clean or replace as necessary.
4. Install the suction screen.
5. Fill the hydraulic reservoir (see “Fluid Replacement”).

HYDRAULIC PUMP

The Hydraulic Pump is located in the Power Module, and is mounted on the rear of the motor.

REMOVAL

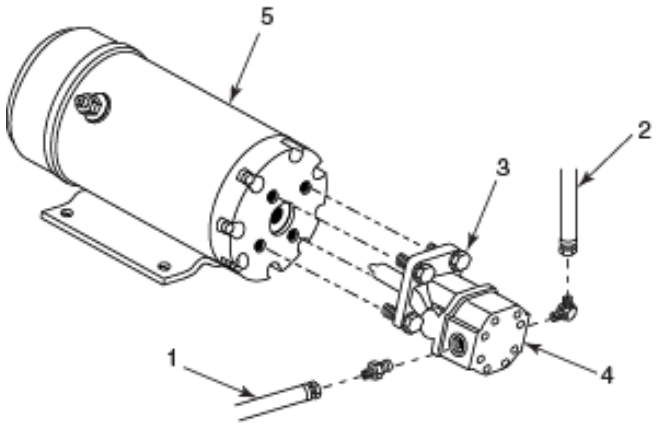
NOTE: If the hydraulic tank has not been drained, suitable means for plugging the hoses should be provided to prevent excessive fluid loss.

1. Mark, disconnect and plug the hose assemblies.
2. Loosen the capscrews and remove the pump assembly from the motor.

INSTALLATION

1. Lubricate the pump shaft with general purpose grease and attach the pump to the motor with the capscrews.
2. Using a crisscross pattern, torque each capscrew a little at a time until all capscrews are torqued to 27N-m (**20 ft-lbs**).
3. Unplug and reconnect the hydraulic hoses.
4. Check the oil level in the hydraulic tank before operating the work platform.

Figure 3-10: Hydraulic Pump Assembly

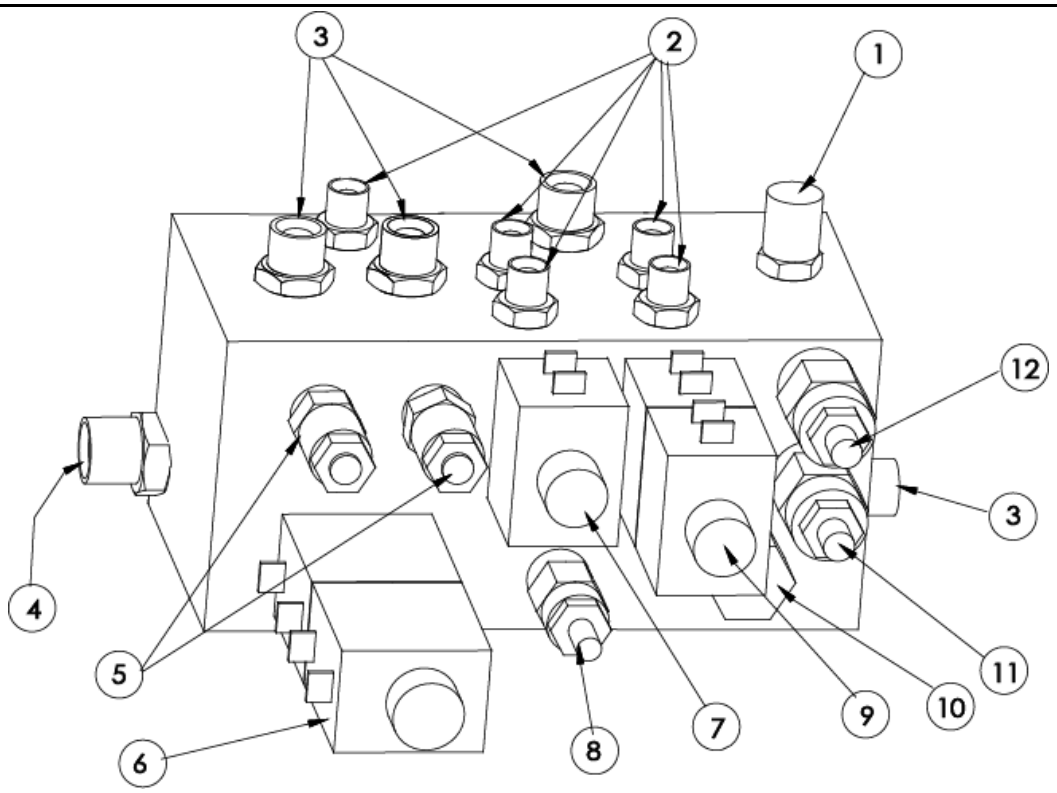


1. Inlet Hose
2. Outlet Hose
3. Capscrew
4. Pump Assembly
5. Electric Motor

Main Hydraulic Manifold

Though it is not necessary to remove the manifold to perform all maintenance procedures, a determination should be made prior to beginning as to whether or not the manifold should be removed before maintenance procedures begin.

Figure 3-11: Valve Location



1 TEST PORT1
2 FITTING, 1/4” - 1/4” MALE/MALE
3 FITTING, 3/8” - 3/8” MALE/MALE
4 FITTING, 1/2” - 1/2” (MALE/MALE)
5 CROSS LINE RELIEF VALVE (DRIVE)
6 VALVE, SOLENOID (DRIVE)
7 VALVE, SOLENOID (DRIVE/LIFT)
8 PRESSURE RELIEF (MAIN LIFT)
9 VALVE, SOLENOID (STEERING)
10 FLOW RESTRICTOR (STEERING)
11 RELIEF VALVE (STEERING)
12 RELIEF VALVE (MAIN RELIEF)

Figure 3-12:

Setting Hydraulic Manifold Pressures

⚠ WARNING ⚠

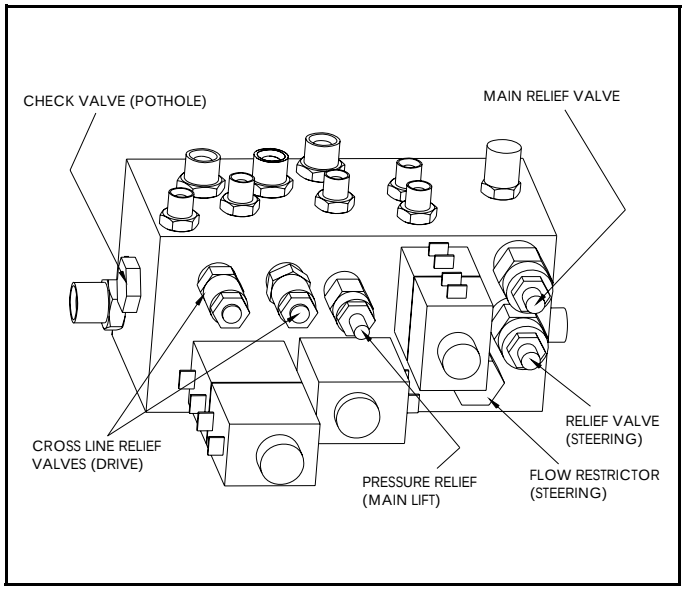
The hydraulic oil may be of sufficient temperature to cause burns. Wear safety gloves and safety glasses when handling hot oil.

The oil in the hydraulic system is under very high pressure which can easily cause severe cuts. Obtain medical assistance immediately if cut by hydraulic oil.

NOTE: Check the hydraulic pressures whenever the pump, manifold or relief valves have been serviced or replaced

Main Relief Valve

Figure 3-13: Hydraulic Manifold with Valves



1. Operate the hydraulic system 10 to 15 minutes to warm the oil.
2. Remove the cap or loosen the locknut on the Main Relief Valve.
3. Install a 0-207 bar (**0-3000 psi**) pressure gauge to the gauge port.
4. Turn the Chassis Keyswitch to CHASSIS and elevate the machine fully.
5. While holding the Chassis Lift Switch to the UP position, adjust the Main Relief Valve until the pressure gauge reads 165 bar (**2400 psi**).
6. Release the Chassis Lift Switch.
7. Replace the cap, or tighten the locknut on the Lift Relief Valve, and torque to 8N-m (**6 ft-lbs**).
8. Lower the platform.

Counterbalance Valves

1. Operate the work platform for 10-15 minutes to bring the hydraulic oil up to normal operating temperature.
2. Remove the gauge port cap and install the pressure gauge assembly.
3. Lift work platform and block front wheels off ground.
4. Loosen the locknuts on Counterbalance Valves.
5. With the machine fully powered up depress the **DRIVE** button on the upper control box, depress the interlock lever and slowly pull the control lever to **REVERSE** to drive the wheels.
6. Adjust the Forward Counterbalance Valve by turning the adjustment screw until the pressure gauge indicates 83 bar (**1200 psi**).
7. Slowly push the Control Lever to **FORWARD** to drive the wheels.
8. Adjust the Reverse Counterbalance Valve by turning the adjustment screw until the pressure gauge indicates 83 bar (**1200 psi**).
9. Check the settings by slowly moving the Control Lever **FORWARD**, then **REVERSE**, checking the gauge to ensure pressures are properly set. Re-adjust as needed.
10. Tighten locknuts on valves to 8N-m (**6 ft-lbs**). Remove blocks and lower work platform to ground.
11. Reconnect the red Control Cable wire to terminal #9.
12. Remove the gauge from the gauge port and re-install cap.
13. Check for proper operation of the drive system and brake.

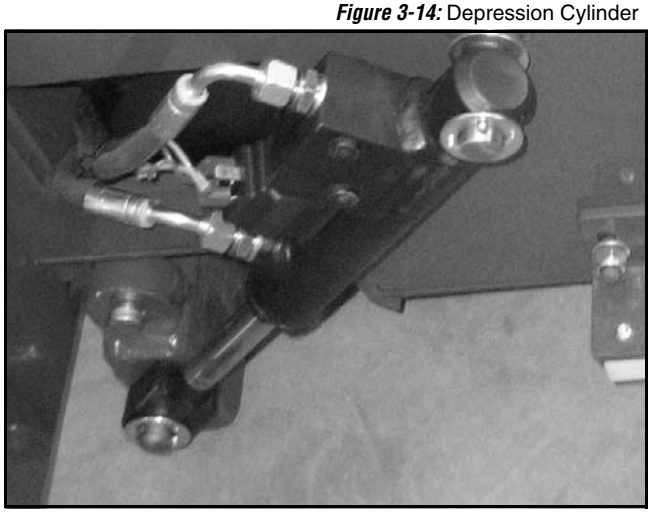
Steering Relief Valves

1. Operate the work platform for 10-15 minutes to bring the hydraulic oil up to normal operating temperature.
2. Install gauge in the gauge port.
3. Loosen locknut or remove cover on the Steering Relief Valve and turn adjusting screw counter-clockwise two full turns.
4. While one person holds the Steering Switch to steer right or left, slowly turn the Steering Relief Valve adjusting screw clockwise to increase the pressure until the gauge reads 69 bar (**1000 psi**).
5. Tighten locknut or replace Steering Relief Valve cover and torque to 8N-m (**6 ft-lbs**).
6. Remove gauge and replace cap.

3-9 CYLINDERS

DEPRESSION CYLINDER

Figure 3-14: Depression Cylinder



REMOVAL

1. Mark and disconnect the hose assemblies from the cylinder fittings and immediately cap the openings to prevent foreign material from entering.
2. Place a support under the depression guard.
3. Remove the circlips from the pivot pins.
4. Remove the pivot pins while supporting the cylinder.
5. Remove the cylinder.

REPAIR

DISASSEMBLY

1. Unscrew the head cap from the barrel, removing the head cap, piston, and shaft assembly from the barrel tube.
2. Unscrew the piston.
3. Remove all rod wipers, U-cups, O-rings, and backup rings from the headcap, and discard.
4. Remove the piston ring and O-ring from the piston, and discard.

CLEANING AND INSPECTION

1. Wash all the metal parts in cleaning solvent and blow dry with filtered compressed air.
2. Inspect all the threaded components for stripped or damaged threads.
3. Check the inside surface of the cylinder barrel for scoring or excessive wear.
4. Check the piston and headcaps for scoring or excessive wear.
5. Inspect the surface of the shaft for scoring or excessive wear.

ASSEMBLY

1. Lubricate and install new rod wiper, U-cup, O-ring, and backup ring on the headcaps.
2. Install the headcap onto the shaft.
3. Install the new piston rings and O-ring on the piston. Re-install the piston.
4. Lubricate the piston seal with clean hydraulic fluid and install the shaft assembly in the cylinder barrel.
5. Install the head cap into the cylinder barrel, and tighten the head caps.

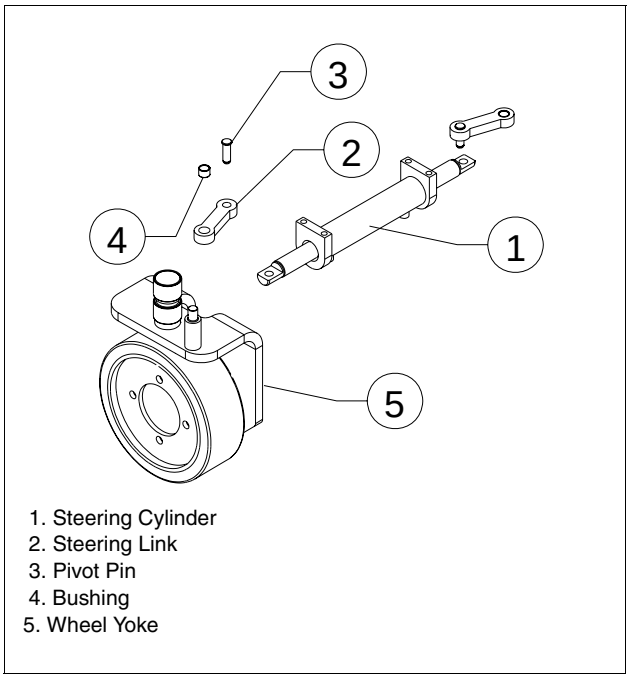
INSTALLATION

Installation is reverse of removal.

STEERING CYLINDER

REMOVAL

Figure 3-15: Steering Cylinder Mount Assemblt



1. Steering Cylinder
2. Steering Link
3. Pivot Pin
4. Bushing
5. Wheel Yoke

1. Mark and disconnect the hose assemblies from the cylinder fittings and immediately cap the openings to prevent foreign material from entering.
2. Remove the cotter pins from the pivot pins.
3. Remove the pivot pins while supporting the cylinder. Remove the cylinder.

REPAIR

DISASSEMBLY

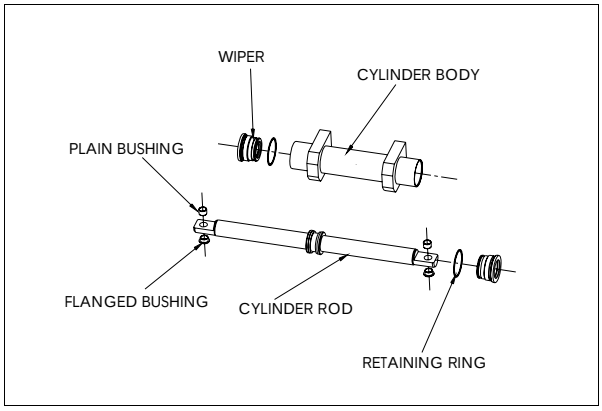
1. Unscrew the head cap from the barrel, removing the head cap, piston, and shaft assembly from the barrel tube.
2. Unscrew the piston.
3. Remove all rod wipers, U-cups, O-rings, and backup rings from the headcap, and discard.
4. Remove the piston ring and O-ring from the piston, and discard.

Cleaning and Inspection

1. Wash all the metal parts in cleaning solvent and blow dry with filtered compressed air.
2. Inspect all the threaded components for stripped or damaged threads.
3. Check the inside surface of the cylinder barrel for scoring or excessive wear.
4. Check the piston and headcaps for scoring or excessive wear.
5. Inspect the surface of the shaft for scoring or excessive wear.

ASSEMBLY

Figure 3-16: Steering Cylinder Assembly



1. Lubricate and install new rod wiper, U-cup, O-ring, and backup ring on the headcaps.
2. Install the headcap onto the shaft.
3. Install the new piston rings and O-ring on the piston. Re-install the piston.
4. Lubricate the piston seal with clean hydraulic fluid and install the shaft assembly in the cylinder barrel.

Install the head cap into the cylinder barrel, and tighten the head caps.

INSTALLATION

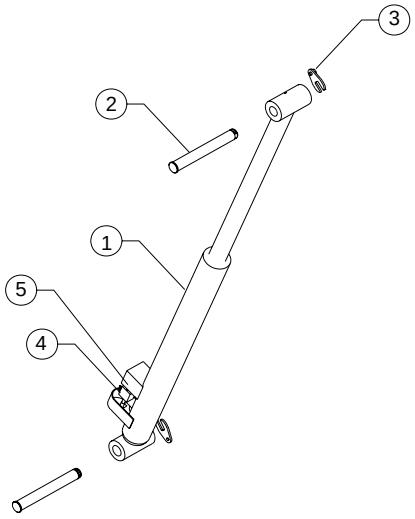
1. Position the cylinder assembly in the chassis and insert pivot pins and secure with new cotter pins.
2. Connect the hose assemblies to the fittings.
3. Operate the steering circuit several times throughout its entire range of travel to expel trapped air and check for leaks.

LIFT CYLINDER

REMOVAL

1. Provide a suitable container to catch the hydraulic fluid, then disconnect the hydraulic hoses. Immediately plug hoses to prevent foreign material from entering.
2. Remove emergency lowering valve cable and down valve wires from the emergency lowering/down valve.
3. Remove the cable bracket from the lift cylinder.
4. Remove capscrews and locknuts securing lift cylinder pivot pins.
5. Remove lower pivot pin and lower cylinder to rest on chassis.
6. Attach a suitable hoisting device and sling to the cylinder, and remove upper pivot pin.
7. Carefully remove cylinder.

Figure 3-17: Lift Cyminder Assembly



1. Lift Cylinder
2. Pivot Pit
3. Capscrew and Lockplate
4. Solenoid, Emergency Down
5. Hose Connections

REPAIR

Refer to Pothole / Steering Cylinder Repair on previous page.

INSTALLATION

1. Coat both pivot pins with anti-seize compound.
2. Attach a suitable hoisting device and sling to the cylinder. Carefully position cylinder in the elevating assembly, and install the upper pivot pin.
3. Install the capscrew and locknut.
4. Carefully lift the cylinder and align the lower mount, and install the pivot pin. Install the capscrew and locknut securing the pivot pin.
5. Install the cable bracket. Connect the emergency lowering valve cable and down valve wires.
6. Unplug hydraulic hoses and attach to the cylinder.
7. Replace hydraulic fluid removed from lift cylinder.
8. Test with weight at rated Platform load to check system operation. Check for leaks

3-10 Drive Motors

Removal

1. Use a 1000Kg (**one ton**) capacity jack to raise the front of the machine. Position blocks under the machine to prevent the work platform from falling if the jack fails.
2. Block the rear wheels to prevent the machine from rolling.
3. Remove the cotter pin, nut, and washer.
4. Remove the wheel.

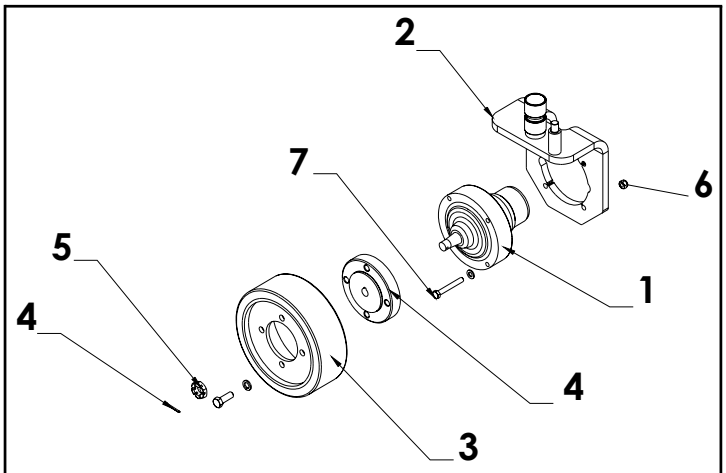
NOTE: Before disconnecting hoses, thoroughly clean off all outside dirt around fittings. (After disconnecting hoses and before removing from vehicle, IMMEDIATELY plug port holes.)

5. Tag, disconnect and plug the hose assemblies to prevent foreign material from entering.
6. Support the drive motor/wheel yoke assembly and remove the retaining ring at the top of the wheel yoke pivot. Remove the drive motor/wheel assembly from the machine.
7. Remove the locknuts, flat washers, capscrews and drive motor from the wheel yoke.

Installation

1. Position the drive motor in the wheel yoke and secure with capscrews, flat washers and locknuts.
2. Install the drive motor/wheel yoke assembly into the pivot bearing along with the lower thrust washer, thrust bushing, and retaining ring.
3. To ensure that the Wheel Yoke Assembly does not fall out of the Chassis when the vehicle is lifted off the ground fit a 3/8"UNC nut and a 1 1/4" long bolt, screw nut onto bolt until 6mm from bolt head. Hand screw bolt into Chassis thread and tighten until bolt hits inner pin groove. Loosen bolt by a HALF turn of the bolt head. Whilst still holding bolt head with either ratchet socket or spanner turn down the nut till it hits Chassis outer casing and then tighten using a 9/16" spanner until nut is tight to outer material.This is to lock the bolt in position.
4. Align the steer pin with the hole in the steering link.
5. Remove the plugs from the hose assemblies and connect to the drive motor.
6. Install the shaft key, wheel, washer and slotted nut. Torque the locknut to 102 N-m (**75 ft-lbs**). Install a new cotter pin. **DO NOT** back-off the nut to install cotter pin.
7. Remove blocks, lower the jack and remove. Operate the drive system and check for leaks.

Figure 3-18: Drive Motor Assembly



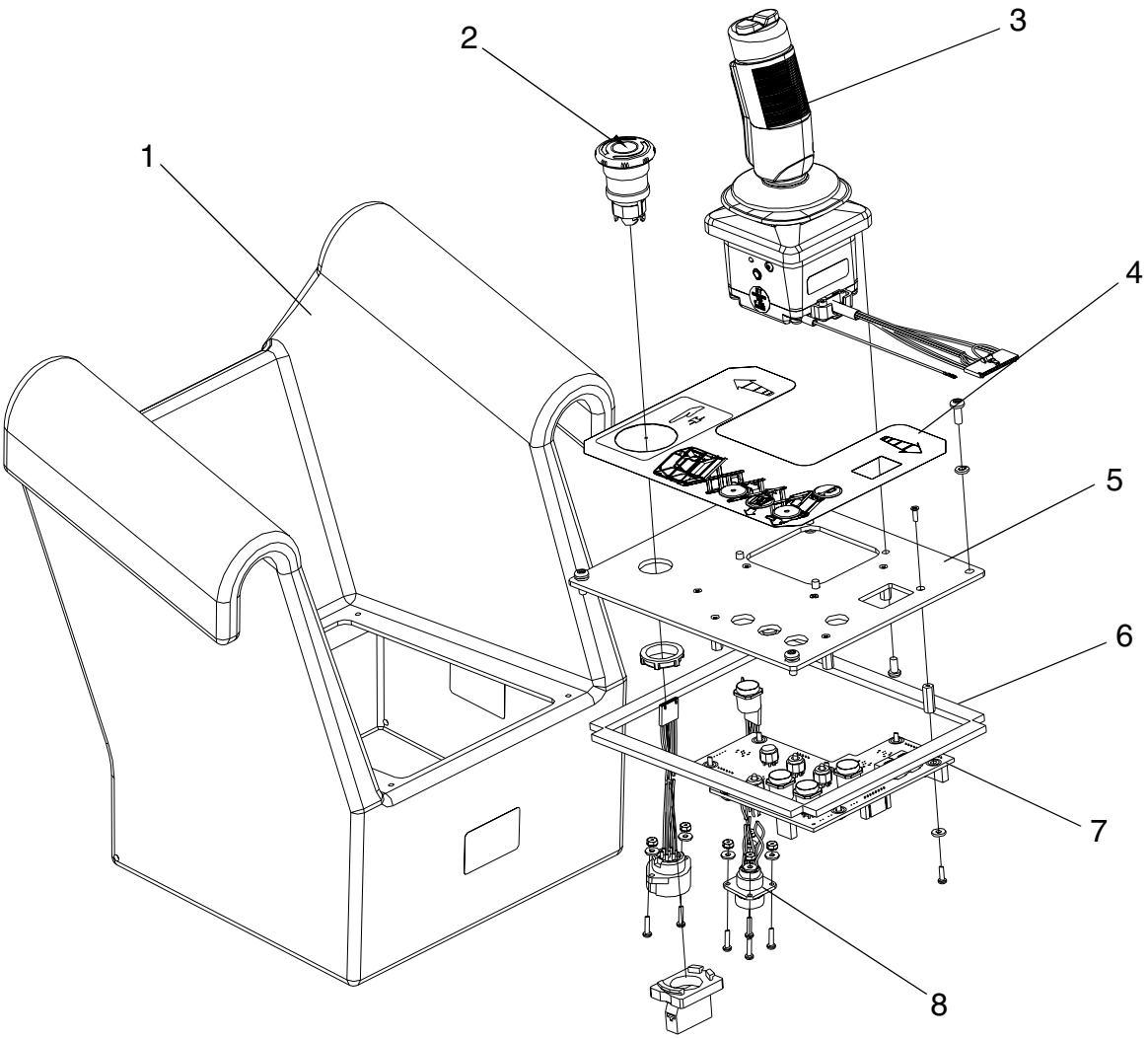
1. Drive Motor
2. Wheel Yoke
3. Wheel
4. Cotter Pin
5. Slotted Nut
6. Shaft Key
7. Capscrew
8. Locknut

3-11 CONTROLS

PLATFORM CONTROLS

The Proportional Controller can be disassembled to replace defective switches. See the Parts Manual for replacement part numbers.

Figure 3-19: Platform Control Box

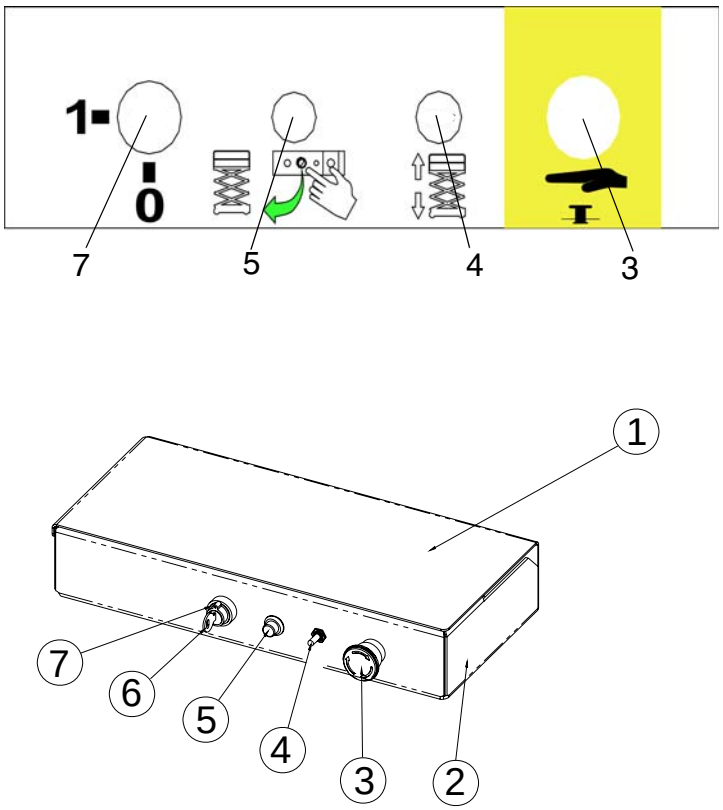


1. Control Box
2. Emergency Stop
3. Joystick
4. Decal
5. Mounting Plate
6. Box Seal
7. Circuit Board
8. Socket, Main Harness

CHASSIS CONTROLS

The chassis control assembly is mounted on the inside of the chassis door, to the left of the Hydraulic tank.

Figure 3-20: Lower Control Box



1. LCB Box Lid
2. LCB Box
3. Emergency Stop
4. Toggle Switch
5. Enable Button
6. Key
7. Key Switch

TORQUE SPECIFICATIONS

HYDRAULIC COMPONENTS

NOTE: Always lubricate threads with clean hydraulic oil prior to installation

Use the following values to torque hydraulic components used on Snorkel Work Platforms.

Table: Torque Specifications for Hydraulic Components

Type: SAE Part Series	Cartridge Poppet		Fittings		Hoses	
	Ft/Lbs	Nm	Ft/Lbs	Nm	Ft/Lbs	Nm
#4	N/A	N/A	N/A	N/A	135-145	15-16
#6	N/A	N/A	10-20	14-27	215-245	24-28
#8	25-30	34-41	25-30	34-41	430-470	49-53
#10	35-40	47-54	35-40	47-54	680-750	77-85
#12	85-90	115-122	85-90	115-122	950-1050	107-119
#16	130-140	176-190	130-140	176-190	1300-1368	147-155

FASTENERS

This standard applies to the preloading of fasteners measured by installation torque.

NOTE: For other preloading methods or fasteners, consult Snorkel **Engineering Department.**

This general standard applies to all SAE and Metric fasteners, unless otherwise specified.

THREAD CONDITION

- For lubed or zinc plated fasteners, use K = .15
- For dry unplated fasteners, use K = .20

TORQUE TABLES

Table: Torque Specifications for SAE Fasteners

		SAE J429 Grade 5			SAE J429 Grade 8		
	Nominal Thread Size	Clamp Load	Tightening Torque		Clamp Load	Tightening Torque	
			K=.15	K=.20		K=.15	K=.20
		lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.
Unified Coarse Thread Series	1/4 -20	2,000	75	100	2850	107	143
	5/16 - 18	3,350	157	210	4700	220	305
		lbs.	ft-lbs.	ft-lbs.	lbs.	ft-lbs.	ft-lbs.
	3/8-16	4,950	23	31	6950	32.5	44
	7/16-14	6,800	37	50	9600	53	70
	1/2-13	9,050	57	75	12800	80	107
	9/16-12	11,600	82	109	16400	115	154
	5/8-11	14,500	113	151	20300	159	211
	3/4-10	21,300	200	266	30100	282	376
	7/8-9	29,435	321	430	41550	454	606
	1-8	38,600	483	640	54540	680	900

		SAE J429 Grade 5			SAE J429 Grade 8		
	Nominal Thread Size	Clamp Load	Tightening Torque		Clamp Load	Tightening Torque	
			K=.15	K=.20		K=.15	K=.20
		lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.
Unified Fine Thread Series	1/4 -28	2,300	85	115	3250	120	163
	5/16-24	3,700	173	230	5200	245	325
		lbs.	ft-lbs.	ft-lbs.	lbs.	ft-lbs.	ft-lbs.
	3/8-24	5,600	26	35	7900	37	50
	7/16-20	7,550	42	55	10700	59	78
	1/2-20	10,200	64	85	14400	90	120
	9/16-18	13,000	92	122	18300	129	172
	5/8-18	16,300	128	170	23000	180	240
	3/4-16	23,800	223	298	33600	315	420
	7/8-14	32,480	355	473	45855	500	668
	1-12	42,270	528	704	59670	745	995

Table: Torque Specifications for Metric Fasteners, U.S. Customary Units

	Grade 8.8			Grade 10.9			Grade 12.9		
Nominal Thread Size	Clamp Load	Tightening Torque		Clamp Load	Tightening Torque		Clamp Load	Tightening Torque	
		K = .15	K = .20		K = .15	K = .20		K = .15	K = .20
mm	lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.	lbs.	in-lbs.	in-lbs.
3	-	-	-	-	-	-	823	14.6	19.5
3.5	-	-	-	-	-	-	1,109	22.9	30.5
4	-	-	-	-	-	-	1,436	33.9	45.2
5	1,389	41.0	19.5	1,987	58.7	19.5	2,322	68.6	91.2
6	1,966	69.7	28.3	2,813	100.0	28.3	3,287	116.8	155.8
7	2,826	116.8	37.2	4,044	167.3	37.2	4,727	195.6	260.2
		ft-lbs.	ft-lbs.		ft-lbs.	ft-lbs.		ft-lbs.	ft-lbs.
8	3,579	14.1	18.8	5,122	20.1	26.9	5,986	23.6	31.4
10	11,742	27.9	37.2	8,117	39.9	53.3	9,486	46.7	62.3
12	8,244	48.7	64.9	11,797	69.7	92.2	13,787	81.1	108.4
14	11,246	77.4	103.3	16,093	110.6	147.5	18,808	129.1	172.6
16	15,883	125.4	166.7	21,971	173.3	230.9	25,677	202.1	269.2
18	19,424	171.9	229.4	26,869	238.2	317.2	31,401	278.1	371.0
20	2,304	243.4	325.3	34,286	337.8	449.9	40,070	394.6	525.9
22	30,653	331.9	442.5	42,403	458.8	612.2	49,556	536.2	715.4
24	35,711	420.4	562.0	49,400	583.4	778.1	57,733	682.2	909.4
27	46,435	617.3	84.8	64,235	853.4	1138.1	75,069	997.2	1329.8
30	56,753	837.9	1117.4	78,509	1159.4	1545.2	91,751	1354.9	1807.0
33	70,208	1140.3	1520.1	97,121	1576.9	2102.8	113,503	1843.9	2457.5
36	82,651	1464.1	1952.3	114,334	2025.3	2700.9	133,620	2367.6	3156.0

Table: Torque Specifications for Metric Fasteners, SI Units

	Grade 8.8			Grade 10.9			Grade 12.9		
Nominal Thread Size	Clamp Load	Tightening Torque		Clamp Load	Tightening Torque		Clamp Load	Tightening Torque	
		K = .15	K = .20		K = .15	K = .20		K = .15	K = .20
mm	N	N-m	N-m	N	N-m	N-m	N	N-m	N-m
3	-	-	-	-	-	-	3,660	1.65	2.2
3.5	-	-	-	-	-	-	4,932	2.59	3.45
4	-	-	-	-	-	-	6,387	3.83	5.11
5	6,177	4.63	2.2	8,840	6.63	2.2	10,330	7.75	10.3
6	8,743	7.87	3.2	12,512	11.3	3.2	14,623	13.2	17.6
7	12,570	13.2	4.2	17,990	18.9	4.2	21,025	22.1	29.4
8	15,921	19.1	25.5	22,784	27.3	36.5	26,626	32	42.6
10	25,230	37.8	50.5	36,105	54.1	72.2	42,195	63.3	84.4
12	36,670	66	88	52,475	94.5	125	61,328	110	147
14	50,025	105	140	71,587	150	200	83,663	175	234
16	70,650	170	226	97,732	235	313	114,218	274	365
18	86,400	233	311	119,520	323	430	139,680	377	503
20	10,250	330	441	152,513	458	610	178,238	535	713
22	136,350	450	600	188,618	622	830	220,433	727	970
24	158,850	570	762	219,743	791	1055	256,808	925	1233
27	206,550	837	115	285,728	1157	1543	333,923	1352	1803
30	252,450	1136	1515	349,223	1572	2095	408,128	1837	2450
33	312,300	1546	2061	432,015	2138	2851	504,885	2500	3332
36	367,650	1985	2647	508,582	2746	3662	594,368	3210	4279

Section 4

TROUBLESHOOTING

4.1 INTRODUCTION

The following section on troubleshooting provides guidelines on the types of problems users may encounter in the field, helps determine the cause of problems, and suggests proper corrective action.

Careful inspection and accurate analysis of the symptoms listed in the Troubleshooting Guide will localize the trouble more quickly than any other method. This manual cannot cover all possible problems that may occur. If a specific problem is not covered in this manual, call our number for service assistance.

Referring to Section 2.0 and 5.0 will aid in understanding the operation and function of the various components and systems and help in diagnosing and repair of the machine.

GENERAL PROCEDURE

Thoroughly study hydraulic and electronic schematics in **Section 5**. Check for loose connections and short circuits. Check/repair/replace each component in the Truth Table that is listed under each machine function that does not operate properly.

Use the charts on the following pages to help determine the cause of a fault.

NOTE: Spike protection diodes at components have been left out of the charts to eliminate confusion.

⚠ WARNING ⚠

When troubleshooting, ensure that the work platform is resting on a firm, level surface.

When performing any service that requires the platform to be raised, ensure that the platform and booms are supported by a crane capable of supporting the load.

Unplug the machine or disconnect the battery when replacing or testing the continuity of any electrical component.

4.2 TROUBLESHOOTING

1. Verify your problem.
- Do a full function test from both the platform and chassis controls, and note all functions that are not operating correctly.
2. Narrow the possible causes of the malfunction.
- Use the troubleshooting guide to determine which components are common to all circuits that are not functioning correctly.
3. Identify the problem component.
- Test components that are common to all circuits that are not functioning correctly. Remember to check wires and terminals between suspect components. Be sure to check connections to battery negative.
4. Repair or replace any component found to be faulty.
5. Verify that repair is complete.
- Do a full function test from both the platform and chassis controls to verify that all functions are operating correctly and that the machine is performing to specified values.

SPECIAL TOOLS

Following is a list of tools which may be required to perform certain maintenance procedures on the X-Series work platforms.

- Flow Meter with Pressure Gauge (P/N 067040-000)
- 0-69 bar (0-1000 psi) Hydraulic Pressure Gauge with Adapter Fittings (P/N 014124-010)
- 0-207 bar (0-3000 psi) Hydraulic Pressure Gauge with Adapter Fittings (P/N 014124-030)
- Adapter Fitting (P/N 063965-002)
- Inclinometer (P/N 010119-000)
- Crimping Tool (P/N 028800-009)
- Terminal Removal Tool (P/N 028800-006)

ADJUSTMENT PROCEDURES

Hydraulic settings must be checked whenever a component is repaired or replaced.

Remove counterbalance valves and "bench test" them if they are suspect.

Connect a pressure gauge of appropriate range to the test port located on the hydraulic manifold.

Correct pressure settings are listed in the hydraulic schematic.

CHECKING PUMP PRESSURES

Remove hose from pump port and connect pressure gauge.

4.3 TROUBLESHOOTING GUIDE

TROUBLE	PROBABLE CAUSE	REMEDY
All functions inoperable, electric motor does not start.	1. Blown electric motor fuse	Check 160 amp electric motor fuse. Replace if blown.
	2. Faulty battery charger.	Check the voltage output of the battery charger. If less than 24 VDC,
	3. Faulty battery(ies).	After completely charging batteries, test each battery. Replace as
	4. Loose or broken battery lead.	Check continuity of all battery and motor leads. Replace if necessary.
	5. Emergency Stop switch(es) failed open.	With emergency stop switch in the ON position, check continuity
	6. Blown control fuse	Check 7A circuit control fuse. Replace if blown.
All functions inoperable. Electric motor starts when control is actuated.	1. Oil level in hydraulic reservoir is low.	Check hydraulic fluid level, top off as required.
	2. Faulty hydraulic pump.	Check pressure and delivery of the hydraulic pump. Replace if
Platform will not elevate or elevates slowly.	1. Emergency Lowering valve open.	Close emergency down valve.
	2. Platform overloaded.	Observe maximum load rating. (see Operation section of this manual)
	3. Faulty controller at upper controls.	Check functionality of controller. Replace if faulty.
	4. Blown control fuse	Check 7A circuit contrrol fuse. Replace if blown.
	5. Battery level low. Check for fault code 68	Check Battery Voltage. Charge if necessary.
Platform drifts down after being elevated	1. Emergency lowering valve open.	Ensure that emergency lowering valve is completely closed. Replace
	2. Leaking piston seals in lift cylinders	Check for leakage at cylinder return line, replace seals if necessary.

FAULT CODES INTRODUCTION

The X-Series is equipped with a fault detection system, if you have a faulty component, bad electrical connection or start up error a fault code will be displayed on the read out located on the upper control box.

For fault codes 01 - 39 the following procedure should be followed.

Ensure that no selector buttons are depressed.

Ensure that the deadman switch on the joystick is not held.

Ensure that the joystick is in neutral.

Ensure that the steer rocker is not activated.

Ensure that toggle switch is in neutral.

Then re-cycle power, do this by pushing and releasing the emergency stop button. If the fault code is still displayed you may have a faulty upper or lower control box, consult the error code list to identify the problem component and replace if necessary.

For fault codes 54 - 68 the following procedure should be followed.

1. Check the fault code list to identify the problem component.

2. Ensure that the wiring harness is connected, secure, in good condition and fully intact.

3. Ensure that the problem component is receiving electrical signal, consult the schematics in section 6 of this manual to identify the ECU output and harness test points.

4. If no ECU output is present replace the ECU.

5. If ECU output is present but no signal is reaching the component replace the wiring harness.

6. If signal is reaching the component but the component is not functioning replace the component (refer to section 7 of this manual for part number information).

4.5 FAULT CODES

01 – System initialization error
02 – System communication error
22 – Platform Left Turn Switch ON at power-up
23 – Platform Right Turn Switch ON at power-up
25 – Platform Hi-Drive Switch ON at power-up
27 – Platform Lo-Drive Switch ON at power-up
28 – Platform Lift Switch ON at power-up
29 – Platform Joystick Enable Switch ON at power-up
31 – Platform Joystick not in neutral at power-up
32 – Lower Control Up/DownToggle ON at power-up
39 – Lower Control Enable Switch ON at power-up

51 – Hi Speed / Low Speed Coil fault
54 – Pothole Retract Coil fault
55 – Lift Up Coil fault
56 – Lift Down Coil fault
59 – Steer Right Coil fault
61 – Steer Left Coil fault
66 – Forward Coil fault
67 – Reverse Coil fault

68 – Low Battery fault

4-6 ELECTRIC

Table 4-1: Electrical Troubleshooting Table

Component / Function	Lower Controls	Upper Controls	Drive Forward	Drive Reverse	High Speed/Creep	Raise Platform	Lower Platform	Steer Left	Steer Right	Depression Mechanism Extend	Depression Mechanism Retract	Brakes	Tilt Alarm	Down Alarm	Battery Charge
Alarm															
Batteries	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Battery Charger															X
5 AMP Circuit Breaker	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
175 AMP Fuse	X	X	X	X	X	X	X	X	X	X	X	X			
ECU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Motor Control	X	X	X	X	X	X	X	X	X	X	X	X			
Motor			X	X	X	X	X	X	X	X	X	X			
Chassis Emergency Stop Switch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Chassis Key Switch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Platform Emergency Stop Switch	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Interlock Switch		X	X	X	X	X	X	X	X						
PQ Control Handle		X	X	X		X	X								
Height Limit Switch						X									
Platform Steering Switch								X	X						
Tilt Sensor	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Steering Solenoid (right)									X						
Steering Solenoid (left)								X							
Platform Lift Solenoid						X									
Down Solenoid							X								
Reverse Solenoid				X											
Forward Solenoid			X												

4-7 HYDRAULIC

Table 4-2: Hydraulic Troubleshooting Table

Component / Function	Lift Platform	Lower Platform	Steer Right	Steer Left	Drive Forward	Drive Reverse	Creep	Depression Mechanism Extend	Depression Mechanism Retract	Brakes
Check Valve										
Steering Cylinder										
Lift Cylinder										
Depression Mechanism Cylinder										
Brake Cylinder										
Suction Strainer										
Return Filter										
Drive Motors (2)										
Pump										
Main Relief Valve										
Steering Relief Valve										
Lift Relief Valve										
Tank										
Steering Right/Left Valve										
Lift Valve										
Down/Emergency Lowering Valve										
Forward/Reverse Valve										
Counterbalance Valve										

Notes :

Section 5

SCHEMATICS

5.1 INTRODUCTION

This section contains electrical and hydraulic power schematics and associated information for maintenance purposes.

The diagrams are to be used in conjunction with the information in ***Section 4.*** They allow understanding of the makeup and functions of the systems for checking, tracing, and faultfinding during troubleshooting analysis.

CONTENTS

Electrical Schematic 5-2

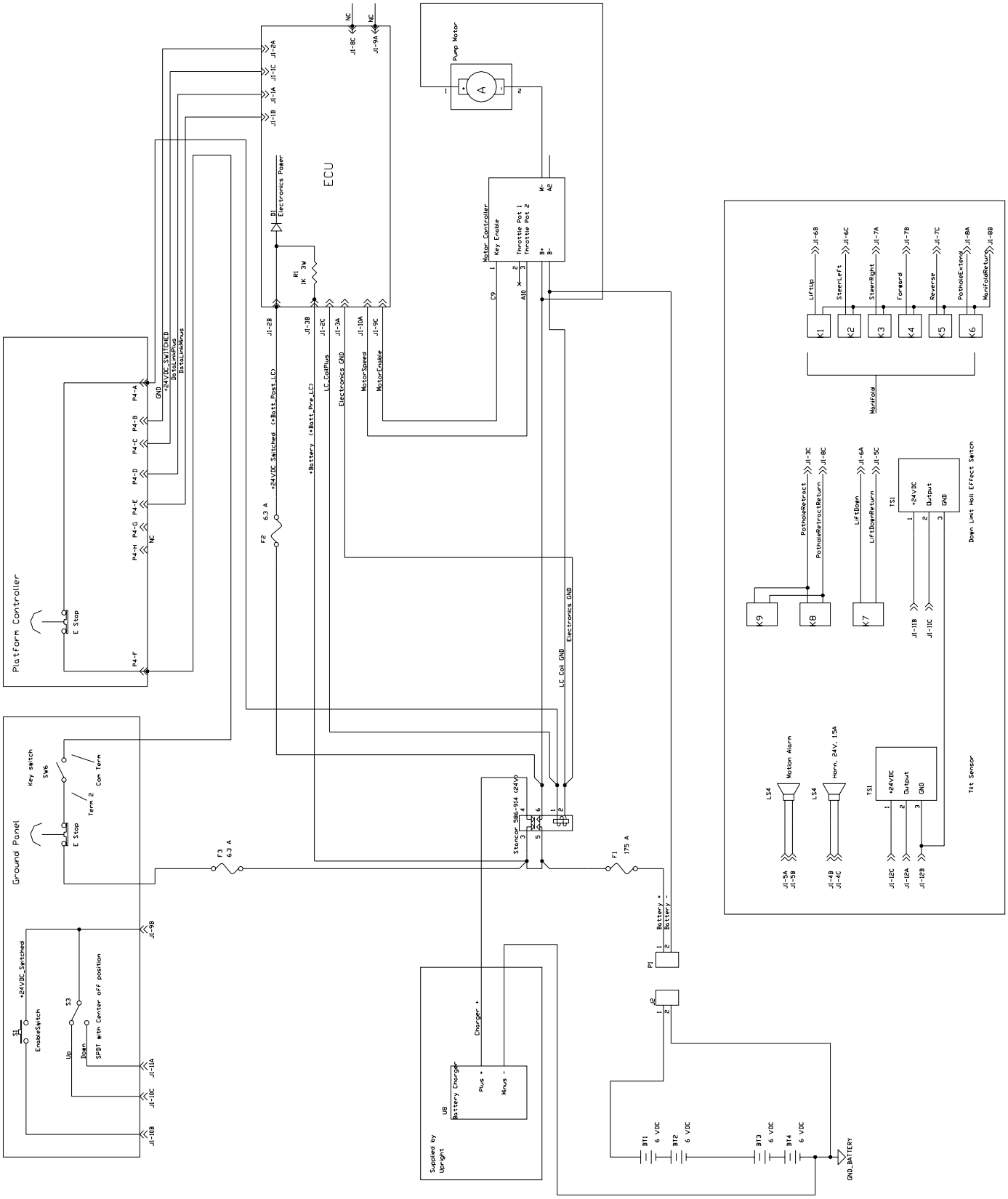
Cable Assembly (J1 Harness) 5-3

Schematic (J1 Harness) 5-4

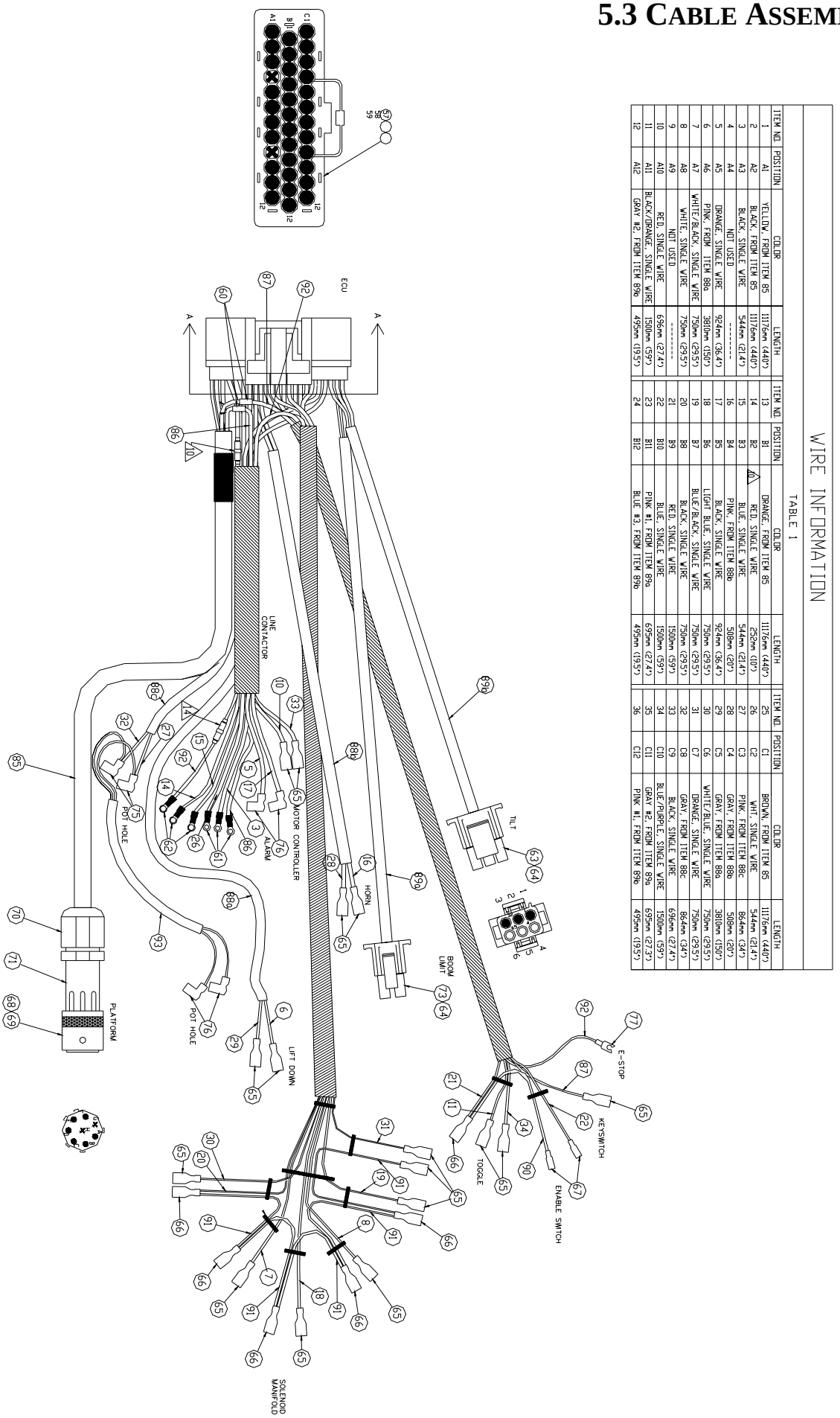
Overload Schematic 5-5

Hydraulic Schematic (S2633) 5-6

5.2 ELECTRIC


ECU
Platform Controller
E Stop
Ground Panel
Key switch
SW6
Con Term
Term 2
E Stop
Pump Motor
Motor Controller
Key Enable
Throttle Pot 1
Throttle Pot 2
Electronics Power
Manifold
LiftUp
SteerLeft
SteerRight
Forward
Reverse
PotholeExtend
ManifoldReturn
PotholeRetract
PotholeRetractReturn
LiftDown
LiftDownReturn
Down Limit Hall Effect Switch
Tilt Sensor
Motion Alarm
Horn, 24V, 1.5A
Battery Charger
Supplied by Upright
Charger +
Plus +
Minus -
Battery +
Battery -
GND_BATTERY
+24VDC_Switched
EnableSwitch
SPDT with Center off position
Up
Down
+24VDC
Output
GND
Stancor SBB-914 (24V)
F1 175 A
F2 6.3 A
F3 6.3 A
LC_CoilPlus
LC_Coil_GND
Electronics_GND
MotorSpeed
MotorEnable
+Battery (+Batt_Pre_LC)
+24VDC_Switched (+Batt_Post_LC)

5.3 CABLE ASSEMBLY

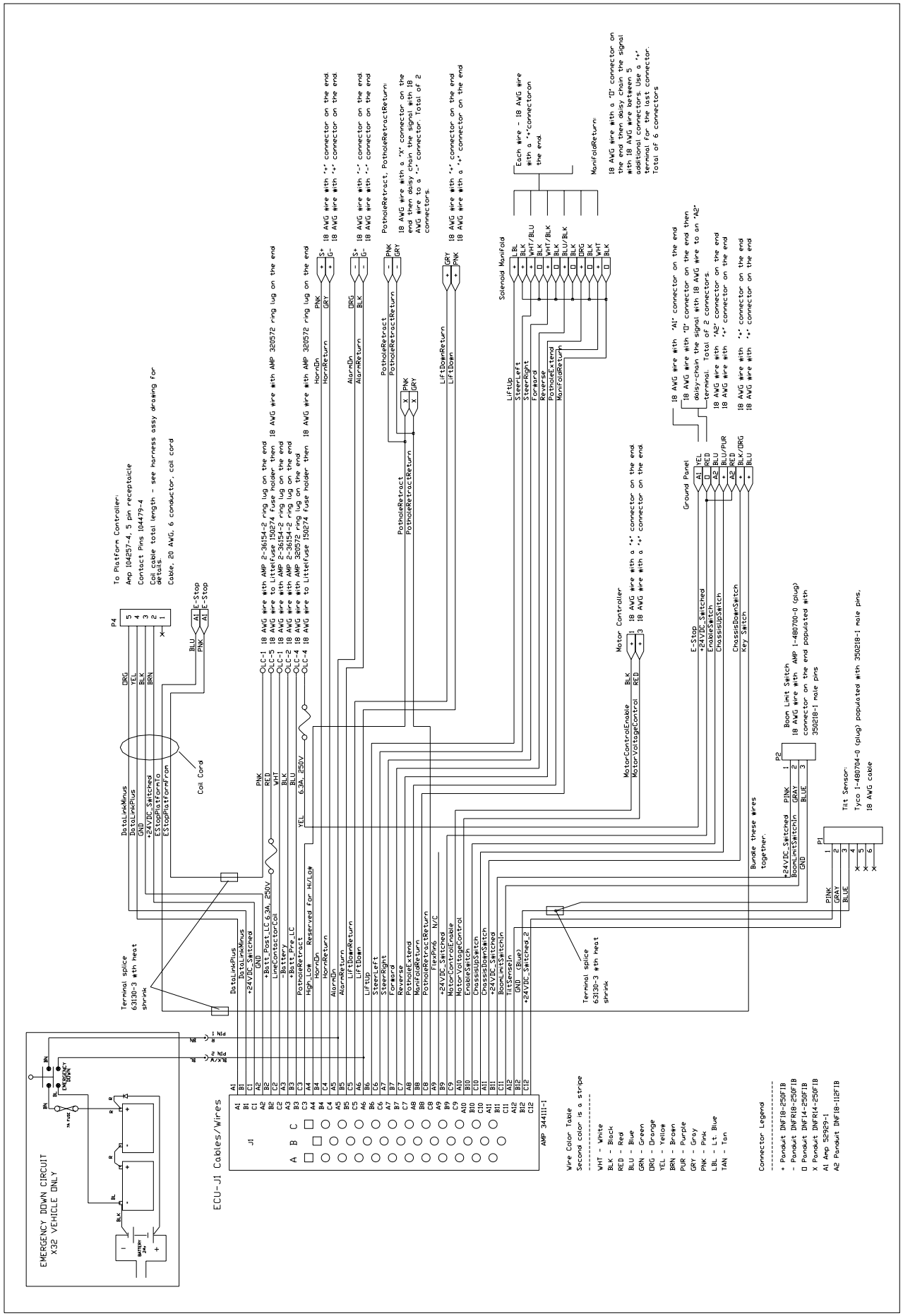


WIRE INFORMATION

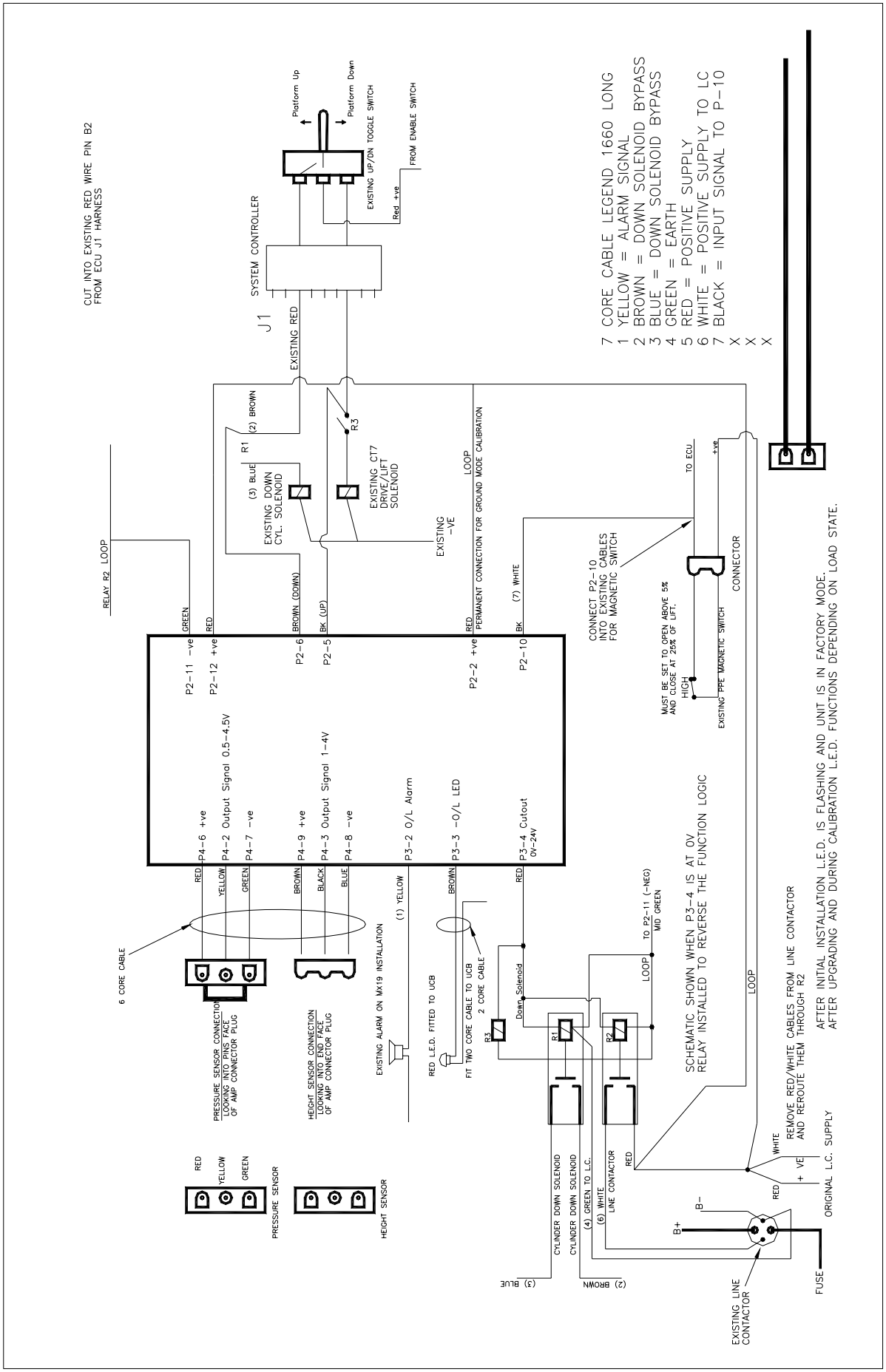
TABLE 1

ITEM NO.	POSITION	COLOR	LENGTH
1	A1	YELLOW, FROM ITEM 85	1117mm (440")
2	A2	BLACK, FROM ITEM 85	1117mm (440")
3	A3	BLACK, SINGLE WIRE	544mm (21.4")
4	A4	NOT USED	--------
5	A5	ORANGE, SINGLE WIRE	924mm (36.4")
6	A6	PINK, FROM ITEM 88a	3810mm (150")
7	A7	WHITE/BLACK, SINGLE WIRE	750mm (29.5")
8	A8	WHITE, SINGLE WIRE	750mm (29.5")
9	A9	NOT USED	--------
10	A10	RED, SINGLE WIRE	696mm (27.4")
11	A11	BLACK/ORANGE, SINGLE WIRE	1500mm (59")
12	A12	GRAY #2, FROM ITEM 89b	495mm (19.5")
13	B1	ORANGE, FROM ITEM 85	1117mm (440")
14	B2	RED, SINGLE WIRE	252mm (10")
15	B3	BLUE, SINGLE WIRE	544mm (21.4")
16	B4	PINK, FROM ITEM 88b	508mm (20")
17	B5	BLACK, SINGLE WIRE	924mm (36.4")
18	B6	LIGHT BLUE, SINGLE WIRE	750mm (29.5")
19	B7	BLUE/BLACK, SINGLE WIRE	750mm (29.5")
20	B8	BLACK, SINGLE WIRE	750mm (29.5")
21	B9	RED, SINGLE WIRE	1500mm (59")
22	B10	BLUE, SINGLE WIRE	1500mm (59")
23	B11	PINK #1, FROM ITEM 89a	695mm (27.4")
24	B12	BLUE #3, FROM ITEM 89b	495mm (19.5")
25	C1	BROWN, FROM ITEM 85	1117mm (440")
26	C2	WHT, SINGLE WIRE	544mm (21.4")
27	C3	PINK, FROM ITEM 88c	864mm (34")
28	C4	GRAY, FROM ITEM 88a	508mm (20")
29	C5	GRAY, FROM ITEM 88a	3810mm (150")
30	C6	WHITE/BLUE, SINGLE WIRE	750mm (29.5")
31	C7	ORANGE, SINGLE WIRE	750mm (29.5")
32	C8	GRAY, FROM ITEM 88c	864mm (34")
33	C9	BLACK, SINGLE WIRE	696mm (27.4")
34	C10	BLUE/PURPLE, SINGLE WIRE	1500mm (59")
35	C11	GRAY #2, FROM ITEM 89a	695mm (27.3")
36	C12	PINK #1, FROM ITEM 89b	495mm (19.5")

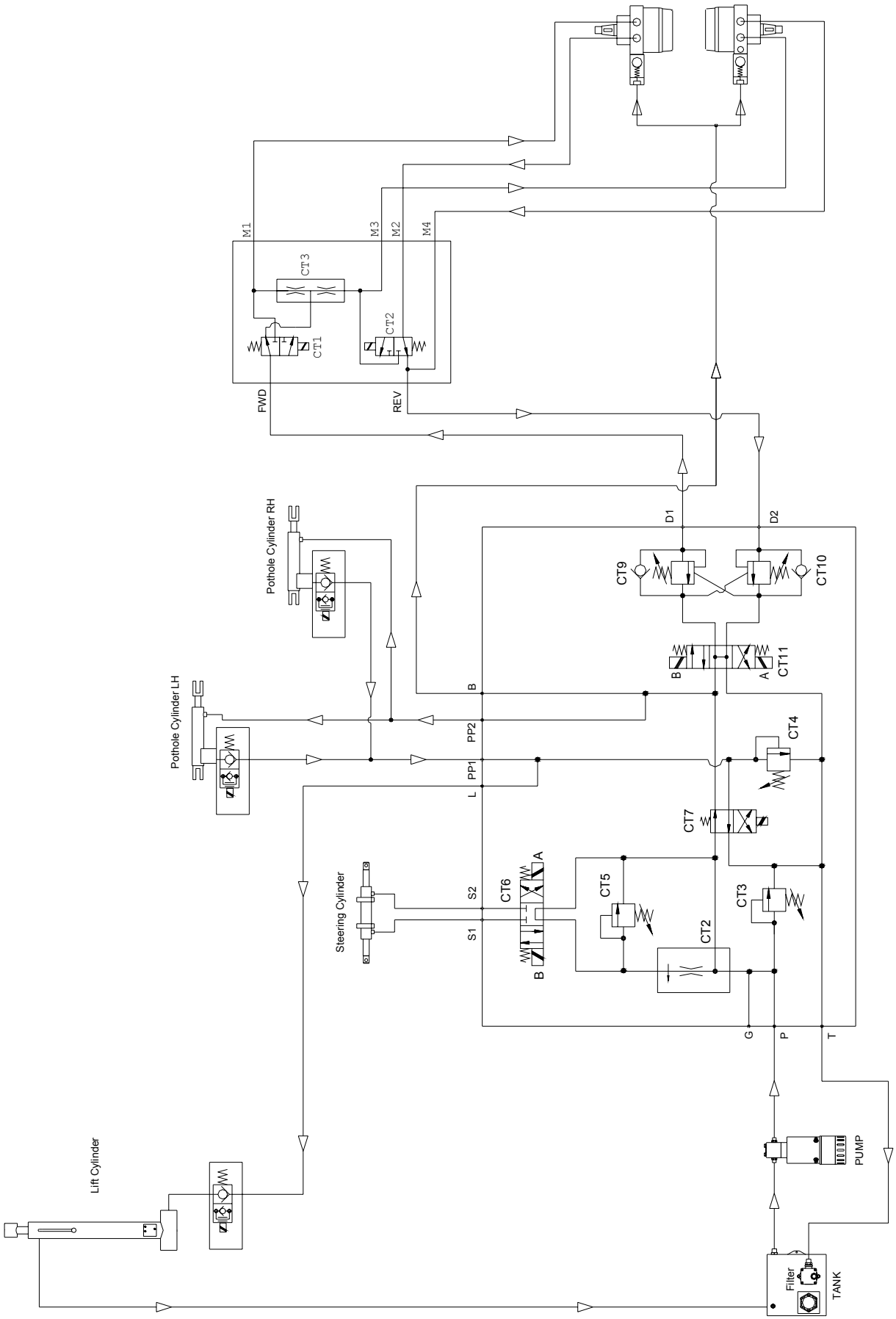
5.4 J1 CABLE SCHEMATIC


To Platform Controller:
Amp 104257-4, 5 pin receptacle
Contact Pins 104479-4
Coil cable total length - see harness assy drawing for details
Cable, 20 AWG, 6 conductor, coil cord
P4
Coil Cord
E-Stop
Terminal splice 63130-3 with heat shrink
ECU-J1 Cables/Wires
J1
AMP 344111-1
Wire Color Table
Second color is a stripe
WHT - White
BLK - Black
RED - Red
BLU - Blue
GRN - Green
ORG - Orange
YEL - Yellow
BRN - Brown
PUR - Purple
GRY - Gray
PNK - Pink
LBL - Lt. Blue
TAN - Tan
Connector Legend
+ Pondut DNF18-250F1B
- Pondut DNFR18-250F1B
□ Pondut DNF14-250F1B
X Pondut DNFR14-250F1B
A1 Amp 929929-1
A2 Pondut DNF18-112F1B
EMERGENCY DOWN CIRCUIT
X32 VEHICLE ONLY
Motor Controller
Ground Panel
Solenoid Manifold
Liftup
SteerLeft
SteerRight
Forward
Reverse
PotholeExtend
ManifoldReturn
Each wire - 18 AWG wire with a '+' connector on the end.
ManifoldReturn:
18 AWG wire with a "D" connector on the end then daisy chain the signal with 18 AWG wire between 5 additional connectors. 5 '+' terminal for the last connector Total of 6 connectors
PotholeRetract, PotholeRetractReturn:
18 AWG wire with a "X" connector on the end then daisy chain the signal with 18 AWG wire to a '-' connector. Total of 2 connectors.
Boom Limit Switch
18 AWG wire with AMP 1-480700-0 (plug) connector on the end populated with 350218-1 male pins
Tilt Sensor:
Tyco 1-480704-0 (plug) populated with 350218-1 male pins.
18 AWG cable
Bundle these wires together.

5.5 OVERLOAD SCHEMATIC



:5.6 Hydraulic Schematic



SECTION 6

ILLUSTRATED PARTS LIST

INTRODUCTION

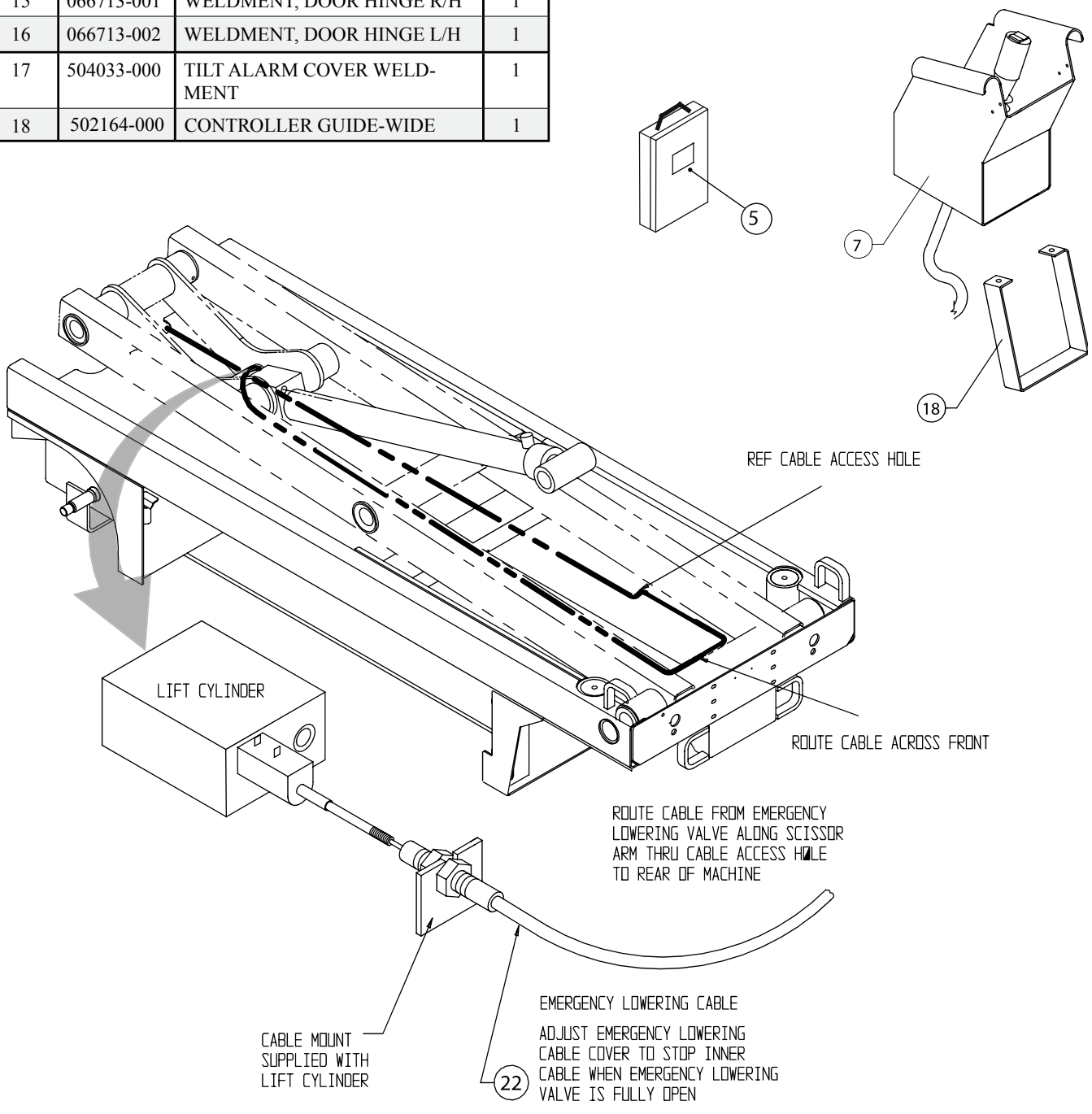
This section lists and illustrates the replaceable assemblies and parts of the S2633 Work Platform as manufactured by Snorkel.
Each parts list contains the component parts for that assembly indented to show relationship where applicable.

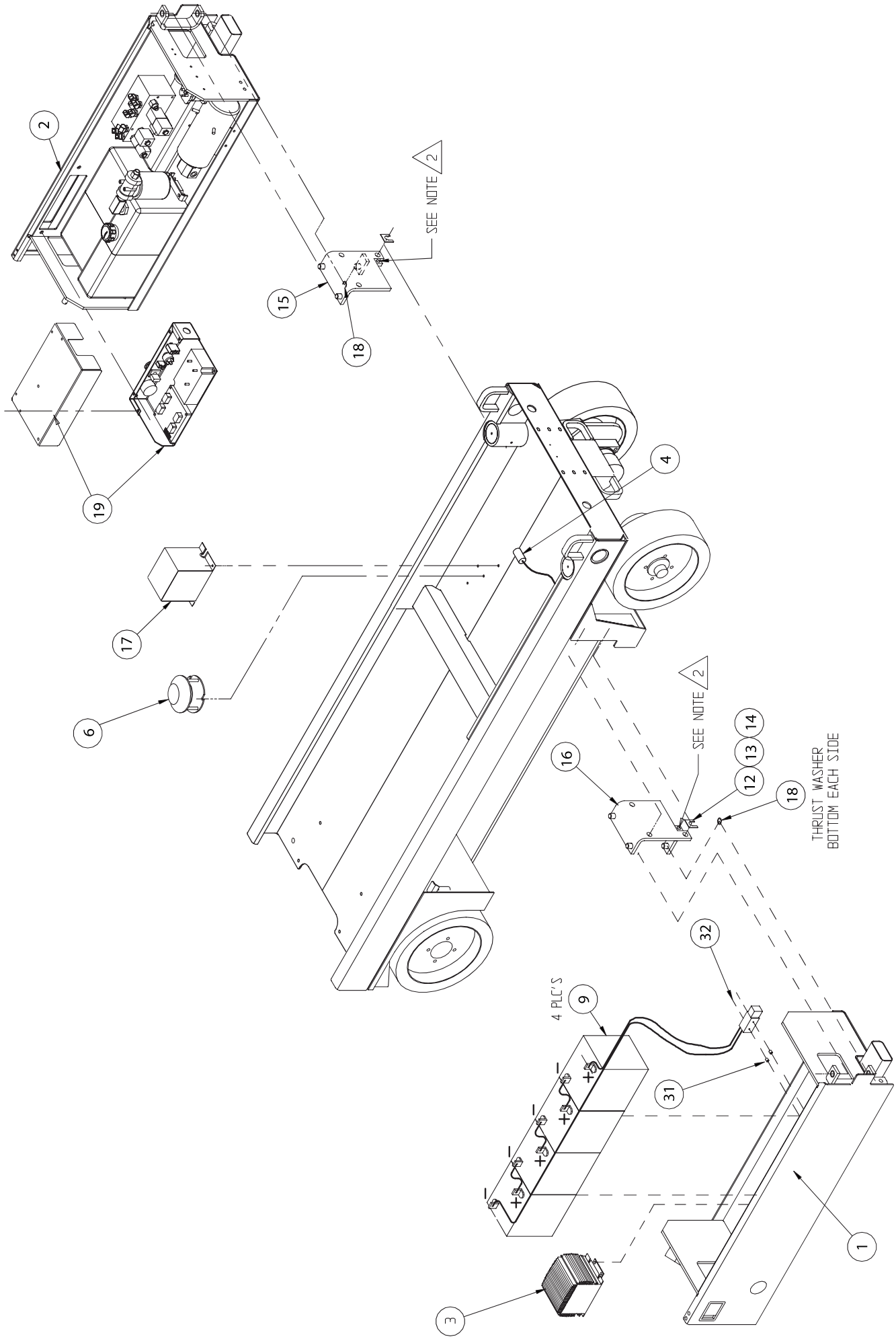
TABLE OF CONTENTS	PAGE
BASIC ASSEMBLY	6-2
CHASSIS ASSEMBLY (FRONT)	6-4
CHASSIS ASSEMBLY (REAR)	6-5
SCISSOR & DECK ASSEMBLY	6-6
SCISSOR ASSEMBLY	6-8
DECK ASSEMBLY	6-12
CONTROL MODULE ASSEMBLY	6-14
POWER MODULE ASSEMBLY	6-15
HYDRAULIC MANIFOLD	6-16
CYLINDER ASSEMBLYS	6-17
LOWER CONTROL BOX ASSEMBLY	6-18
UPPER CONTROL BOX ASSEMBLY	6-19
ELECTRICAL ASSEMBLY	6-20
HYDRAULIC ASSEMBLY	6-22
PLATFORM OVERLOAD	6-24
CE DECAL KIT	6-26
ANSI DECAL KIT	6-28

BASIC ASSEMBLY

Item	Part	Description	Qty.
1	066309-011	POWER MODULE	1
2	066310-026	CONTROL MODULE	1
3	069199-001	CHARGER	1
4	501425-000	SWITCH - PROXIMITY	1
5	010076-000	MANUAL CASE	1
6	505566-001	LEVEL SENSOR	1
7	066250-026	CONTROLLER ASSEMBLY	1
9	501074-000	BATTERY 6 V	4
10	066251-026	EXTENSION DECK	1
11	066250-026	PLATFORM/GUARDRAIL ASSY	1
12	066762-000	SHIM 20GA	A/R
13	066763-000	SHIM 16GA	A/R
14	066764-001	SHIM 12GA	A/R
15	066713-001	WELDMENT, DOOR HINGE R/H	1
16	066713-002	WELDMENT, DOOR HINGE L/H	1
17	504033-000	TILT ALARM COVER WELD-MENT	1
18	502164-000	CONTROLLER GUIDE-WIDE	1

Item	Part	Description	Qty.
19	504348-000	LOWER CONTROL ASSY	1
20	065943-102	WIRE HARNESS ASSY J3	1
21	066623-020	LIFT OVERLOAD ALARM	1
22	504160-001	LOWERING CABLE	1
23			
24	101182-008	CABLE ASSY W/ CONNECTOR	1
25	500996-000	HARNESS ASSY	1
26	062125-005	CABLE ASSY X 14	1
27	064195-040	CABLE ASSY X 40	1
28	062125-011	CABLE ASSY X 9	1
29	064195-005	CABLE ASSY X 5	1
30	029601-039	CONN RING 5/16 10-12	2

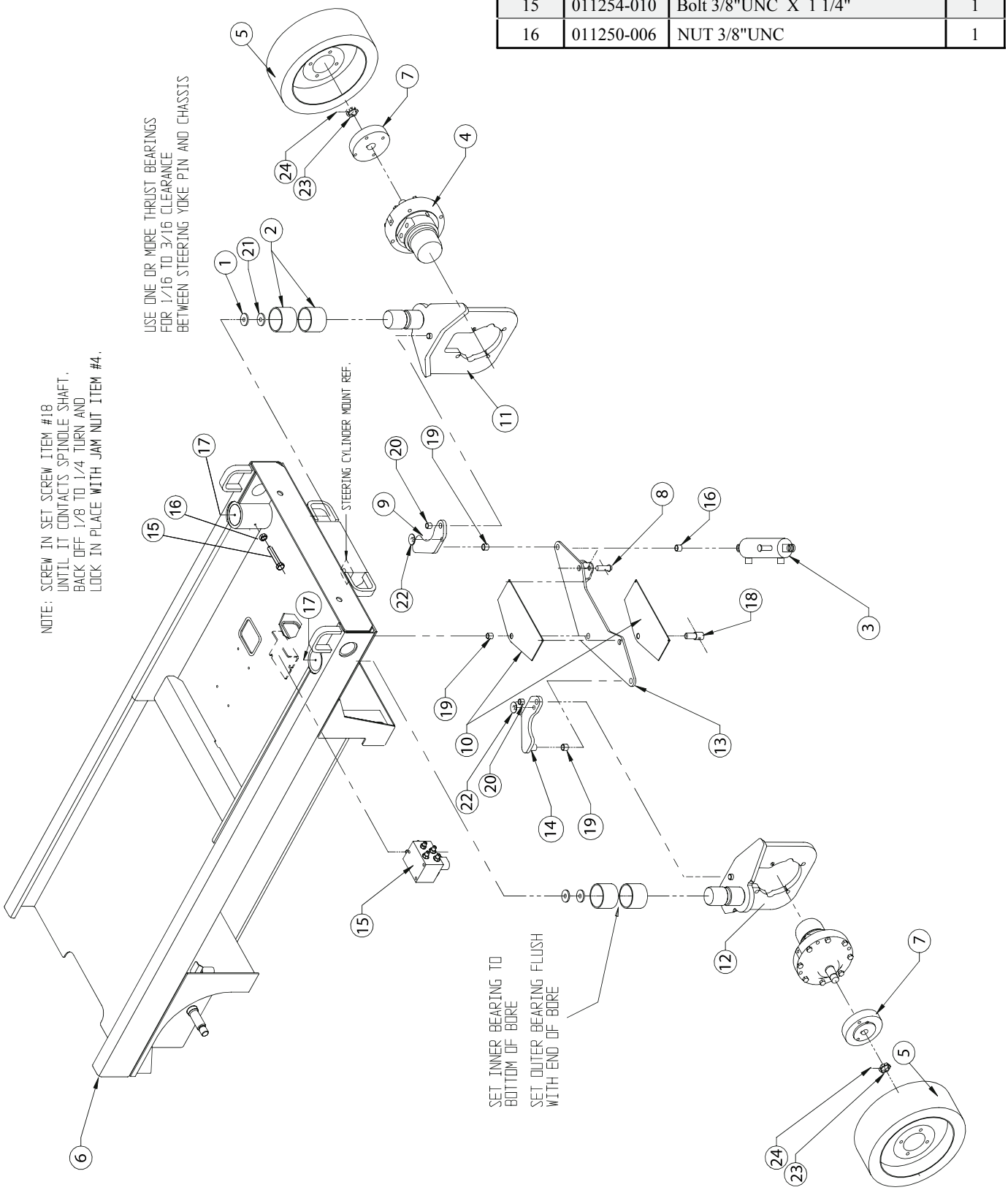

5
7
18
REF CABLE ACCESS HOLE
LIFT CYLINDER
ROUTE CABLE ACROSS FRONT
ROUTE CABLE FROM EMERGENCY LOWERING VALVE ALONG SCISSOR ARM THRU CABLE ACCESS HOLE TO REAR OF MACHINE
CABLE MOUNT SUPPLIED WITH LIFT CYLINDER
EMERGENCY LOWERING CABLE
22
ADJUST EMERGENCY LOWERING CABLE COVER TO STOP INNER CABLE WHEN EMERGENCY LOWERING VALVE IS FULLY OPEN


2
15
18
SEE NOTE 2
19
4
17
6
16
SEE NOTE 2
12
13
14
18
THRUST WASHER
BOTTOM EACH SIDE
32
4 PLC'S
9
31
1
3

CHASSIS ASSSEMBLY (FRONT)

Item	Part	Description	Qty.
1	505042-000	BEARING	2
2	504144-000	BEARING	4
3	504148-001	STEERING CYINDER	1
4	114055-002	MOTOR - HYDRAULIC	2
5	502170-001	WHEEL & TYRE	4
6	066869-000	CHASSIS	1
7	502171-000	HUB - FRONT	2

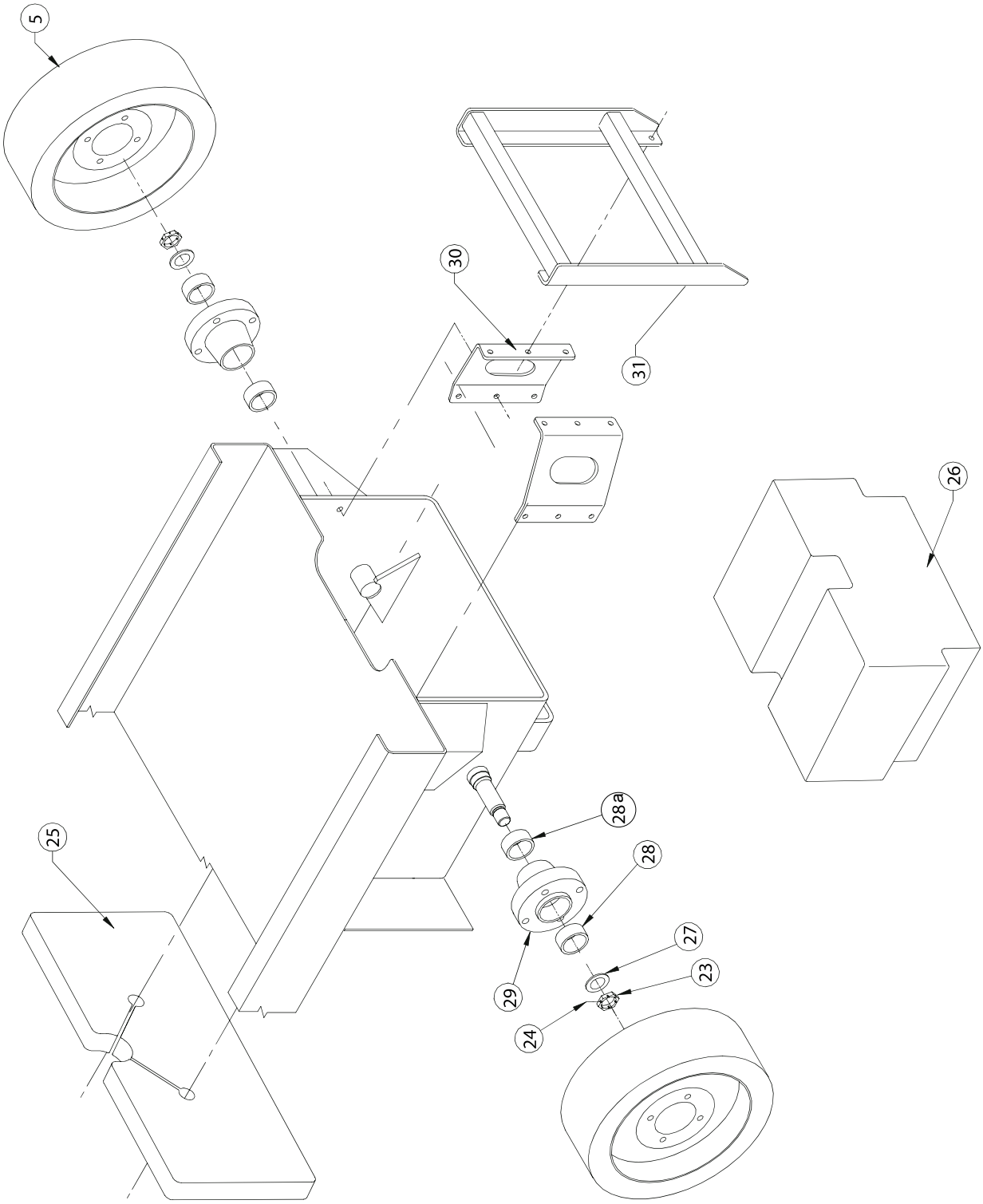
Item	Part	Description	Qty.
8	504153-001	PIN 5/8	2
9	066159-001	L/H STEERING LINK	1
10	504150-000	BEARING	2
11	114057-000	L/H STEERING ANGLE	1
12	114058-000	R/H STEERING ANGLE	1
13	066313-001	BELL CRANK	1
14	066307-001	R/H STEERING LINK	1
15	011254-010	Bolt 3/8"UNC X 1 1/4"	1
16	011250-006	NUT 3/8"UNC	1


USE ONE OR MORE THRUST BEARINGS
FOR 1/16 TO 3/16 CLEARANCE
BETWEEN STEERING YOKE PIN AND CHASSIS
NOTE: SCREW IN SET SCREW ITEM #18
UNTIL IT CONTACTS SPINDLE SHAFT.
BACK OFF 1/8 TO 1/4 TURN AND
LOCK IN PLACE WITH JAM NUT ITEM #4.
STEERING CYLINDER MOUNT REF.
SET INNER BEARING TO
BOTTOM OF BORE
SET OUTER BEARING FLUSH
WITH END OF BORE

CHASSIS ASSSEMBLY (REAR)

Item	Part	Description	Qty.
15	504151-000	VALVE ASSEMBLY	1
16	062642-001	BEARING GARLOCK 10DU12	1
17	058819-000	M6 GREASE NIPPLE	4
18	504154-000	PIN - BELL CRANK	1
19	503673-000	BUSH 12DU08	3
20	503673-000	BUSH 12DU06	2
21	504143-001	SPACER	2
22	066158-001	STEERING LINK - SLIDE PAD	2
23	503755-000	CASTLE NUT	4

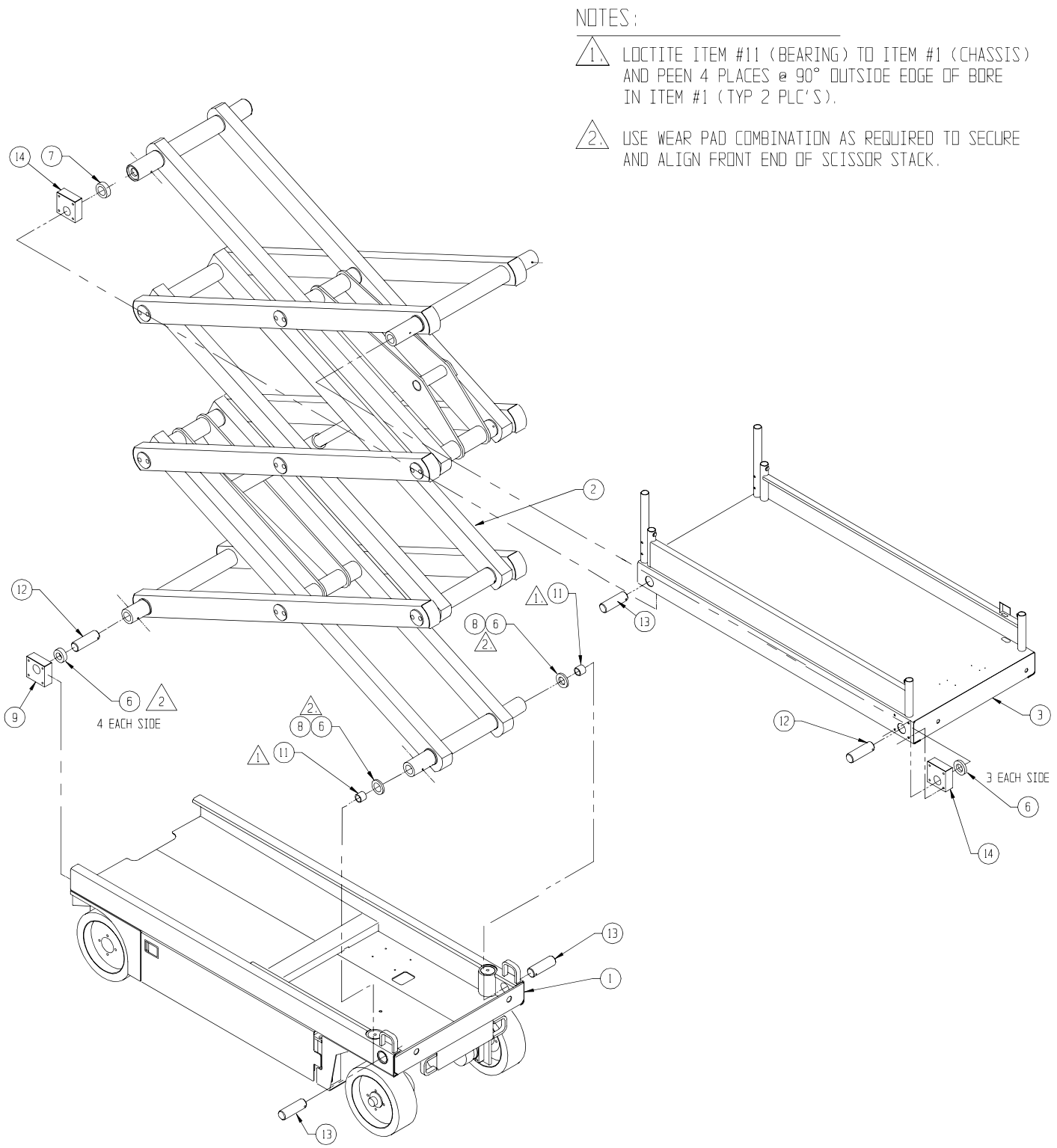
Item	Part	Description	Qty.
24	502152-000	COTTER PIN	4
25	066865-100	COUNTERWEIGHT - R-BULKHD	1
26	066866-000	COUNTERWEIGHT CASTING	1
27	502097-000	FLAT WASHER ASTM	2
28	504157-001	CUP BEARING With Seal	4
28a	504157-000	CUP BEARING	4
29	502171-003	HUB - REAR	2
30	066862-000	LADDER MOUNTING BRACKET	2
31	066307-001	WELDMENT - LADDER	1



CHASSIS SCISSOR & DECK ASSSEMBLY

Item	Part	Description	Qty.
1	504001-011	CHASSIS ASSEMBLY	1
2	114200-001	SCISSOR ASSEMBLY	1
3	504003-011	PLATFORM WELDMENT	1
6	066189-000	WEAR PAD 1/4	16
7	066189-001	WEAR PAD 3/8	2
8	066189-004	WEAR PAD 1/8	2
9	504125-003	SLIDE BLOCK (BOTTOM)	2

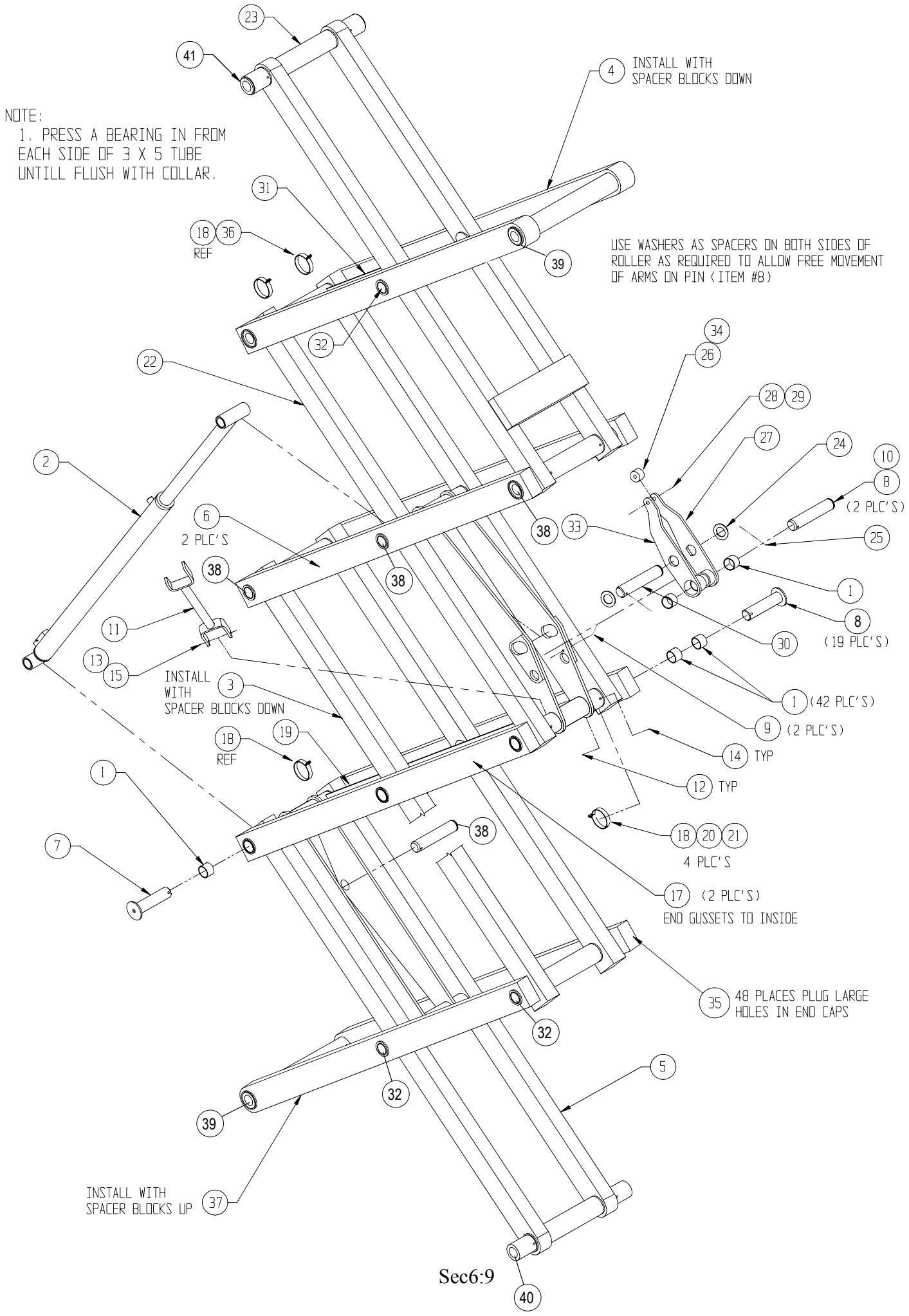
Item	Part	Description	Qty.
11	066183-001	BEARING EAGLE PICHER #323632	2
12	504186-000	MOUNTING PIN	4
13	504186-003	MOUNTING PIN	2
14	504125-000	SLIDE BLOCK	4


NOTES:
1. LOCTITE ITEM #11 (BEARING) TO ITEM #1 (CHASSIS) AND PEEN 4 PLACES @ 90° OUTSIDE EDGE OF BORE IN ITEM #1 (TYP 2 PLC'S).
2. USE WEAR PAD COMBINATION AS REQUIRED TO SECURE AND ALIGN FRONT END OF SCISSOR STACK.
4 EACH SIDE
3 EACH SIDE

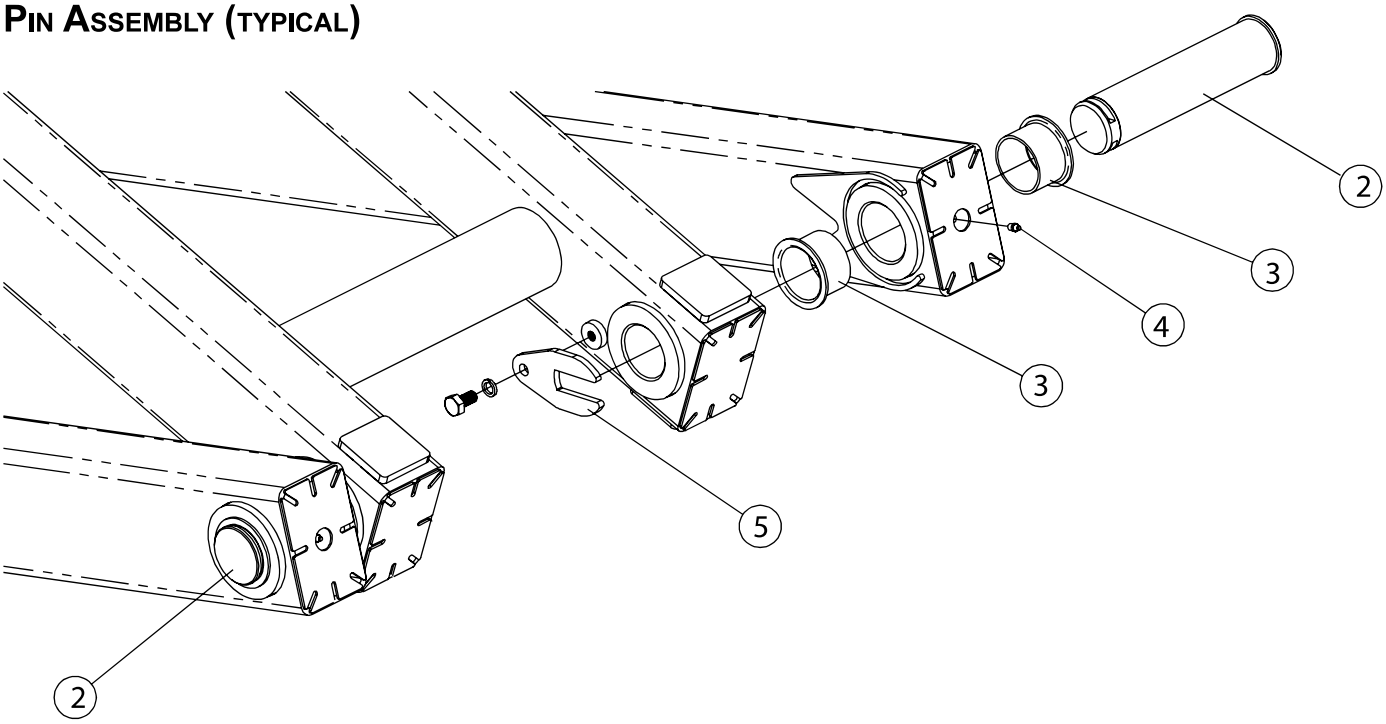
NOTES:

SCISSOR ASSEMBLY 114200-001

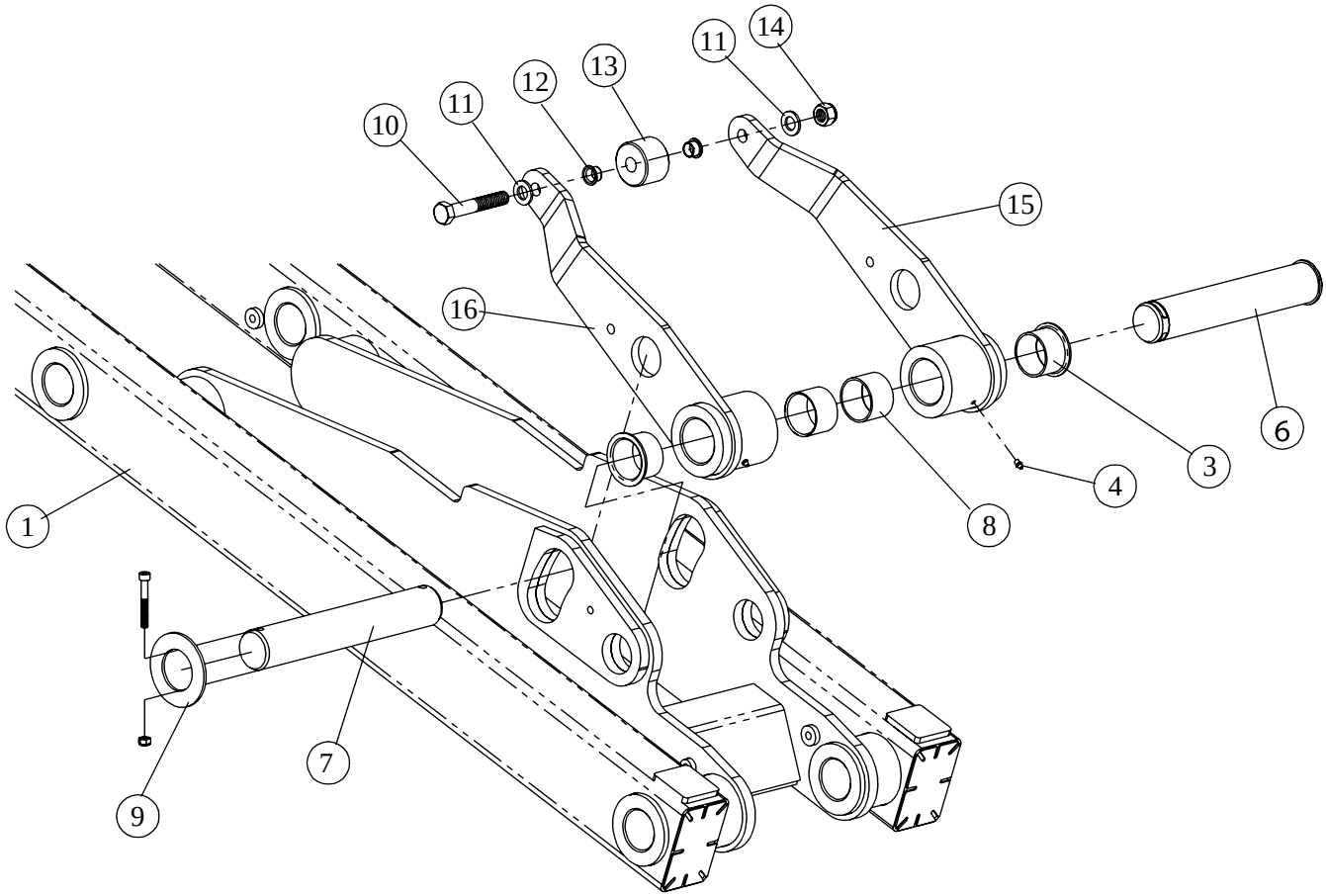
Item	Part	Description	Qty.
1	066183-001	BEARING, OILITE #EP3236-24	42
2	504129-001	LIFT CYLINDER (504129-002 - ANSI)	1
-	504129-010	SEAL KIT, LIFT CYLINDER	REF
3	504104-000	WELDMENT, MID INNER TUBE 1/8	1
4	114201-002	WELDMENT, TOP/BOTOM OUTER	2
5	114202-001	WELDMENT, BOTTOM INNER 3/16	1
6	504103-000	WELDMENT, MID OUTER 1/4	2
7	504122-003	WELDMENT, PIVOT PIN	2
8	504122-001	PIN, LIFT CYLINDER	3
9	501187-000	PIN, SHAFT LOCKING	2
10	011764-032	RET RING TRUARC #5100-200	2
11	114203-001	WELDMENT, SAFETY STAND	1
12	011248-005	NUT HEX 5/16-18	20
13	011248-006	NUT HEX 3/8-16	1
14	015936-023	SCREW SHOULDER 3/8-16 X 3 1/2	20
15	011254-044	SCREW HHC GR5 3/8-16 X 5 1/2	1
17	504103-001	WELDMENT, MID OUTER ARM 1/8	2
18	504046-000	PIPE RING	4
19	504029-000	CHANNEL, CABLE 2.025m)	1
20	011248-004	NUT HEX 1/4-20	4
21	011252-008	SCREW HHC GR5 1/4-20 X 1	4
22	504108-002	WELDMENT, MID INNER ARM 3/16	1
23	114203-001	WELDMENT, TOP INNER ARM 1/8	1
24	011239-032	WASHER 2 DIA ASTM	2
25	011740-024	ROLL PIN 1/2 X 3	2
26	065367-001	BEARING TORRINGTON #YCRS32	1
27	504176-002	WELDMENT, TORSION ARM L.H.	1
28	011257-028	SCREW HHC 5/8-11 X 3 1/2	1
29	011246-010	NUT 5/8-11 THIN HEX	1
30	504123-000	PIN, LIFT CYLINDER	1
31	503790-001	CHANNEL, CABLE (1.054m)	1
32	504122-006	WELDMENT, PIVOT PIN	8
33	504176-003	WELDMENT, TORSION ARM R.H.	1
34	011239-010	WASHER, FLAT 5/8 ASTM	4
35	064462-035	PLUG, 3/4” DIA. CAP PLUG	48
36	013919-006	HOSE CLAMP	1
38	504122-004	PIVOT PIN	9
39	504186-000	PIVOT PIN	4
40	504186-003	PIVOT PIN	2
41	504186-002	PIVOT PIN	2


NOTE:
1. PRESS A BEARING IN FROM EACH SIDE OF 3 X 5 TUBE UNTILL FLUSH WITH COLLAR.
INSTALL WITH SPACER BLOCKS DOWN
USE WASHERS AS SPACERS ON BOTH SIDES OF ROLLER AS REQUIRED TO ALLOW FREE MOVEMENT OF ARMS ON PIN (ITEM #8)
2 PLC'S
(2 PLC'S)
(19 PLC'S)
(42 PLC'S)
(2 PLC'S)
TYP
TYP
4 PLC'S
(2 PLC'S)
END GUSSETS TO INSIDE
48 PLACES PLUG LARGE HOLES IN END CAPS
INSTALL WITH SPACER BLOCKS UP
REF
REF

PIN ASSEMBLY (TYPICAL)



SCISSOR LIFT ASSIST ASSEMBLY

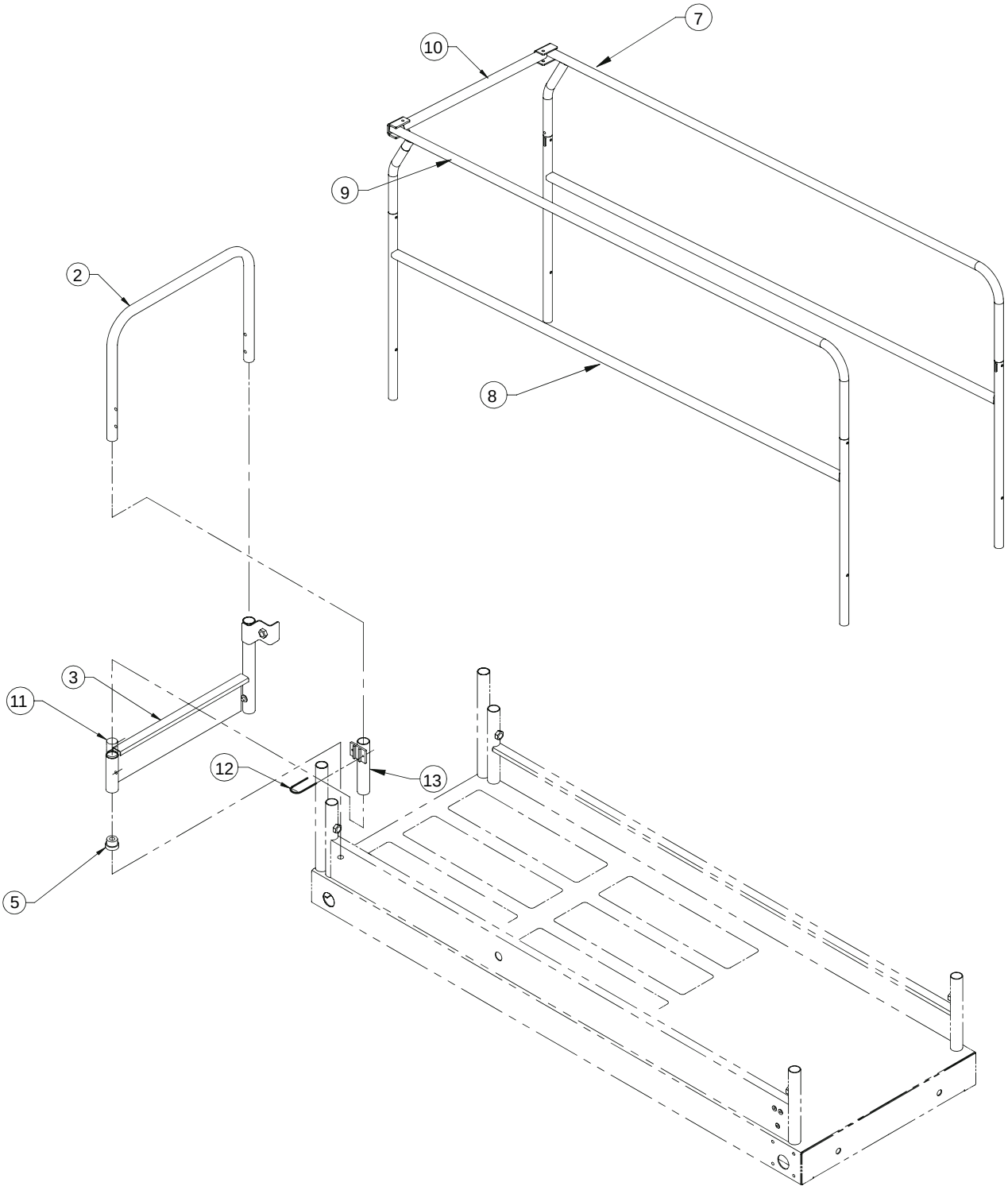


Item	Part	Description	Qty.
1	504108-002	SCISSOR WELDMENT - INNER, CYLINER	1
2	504122-003	PIVOT PIN - STANDARD LONG	4
3	504120-000	FLANGED BUSHING, 50mm	60
4	057048-000	GREASE NIPPLE, M6	16
5	504187-000	PIN LOCK PLATE	30
6	504122-001	PIVOT PIN - STANDARD, MEDIUM	3
7	504123-000	PIVOT PIN - CYLINDER ROD	1
8	504120-001	PLAIN BUSH, 50mm	2
9	504189-001	WASHER, M48 X 4mm THICK	2
10	056687-100	HEX HEAD BOLT, M16 X 100mm	1
11	056069-016	WASHER, M16	2
12	501449-000	FLANGED BUSHING, 16mm	2
13	504177-000	ROLLER, TORSION ARM	1
14	056066-016	NYLOCK NUT, M16	1
15	504176-002	WELDMENT, TORSION ARM (LHS)	1
16	504176-003	WELDMENT, TORSION ARM (RHS)	1

MAIN DECK ASSEMBLY

Item	Part	Description	Qty.
2	066480-000	GATE	1
3	066497-026	WELDMENT, GATE KICKRAIL	1
5	066441-000	PIVOT, GATE	1
7	505300-017	WELDMENT UPPER R/H	1
8	505300-012	GUARDRAIL MID	2
9	505300-015	WELDMENT UPPER L/H	1

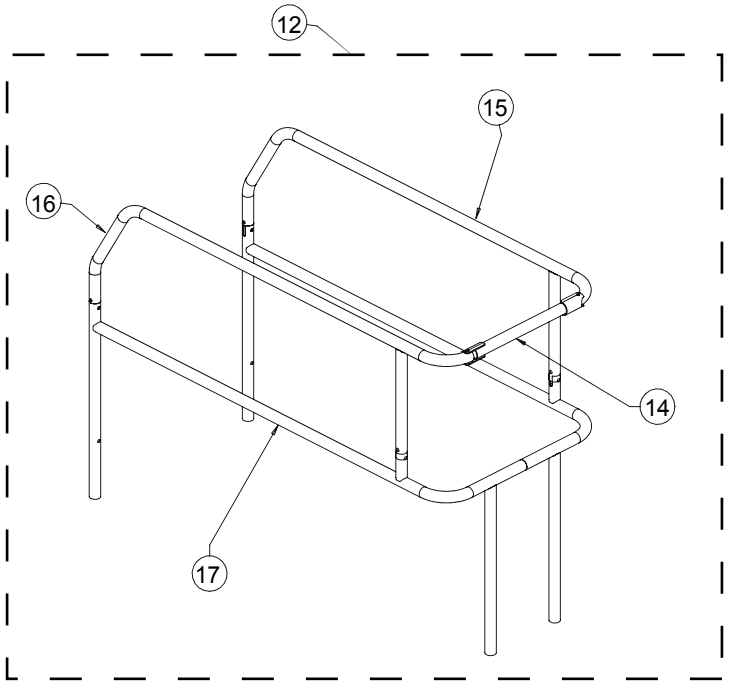
Item	Part	Description	Qty.
10	505300-010	SWING BAR	1
11	502204-001	TORSION SPRING	1
12	027899-000	U BOLT	1
13	066519-000	WELDMENT, GATE HINGE	1

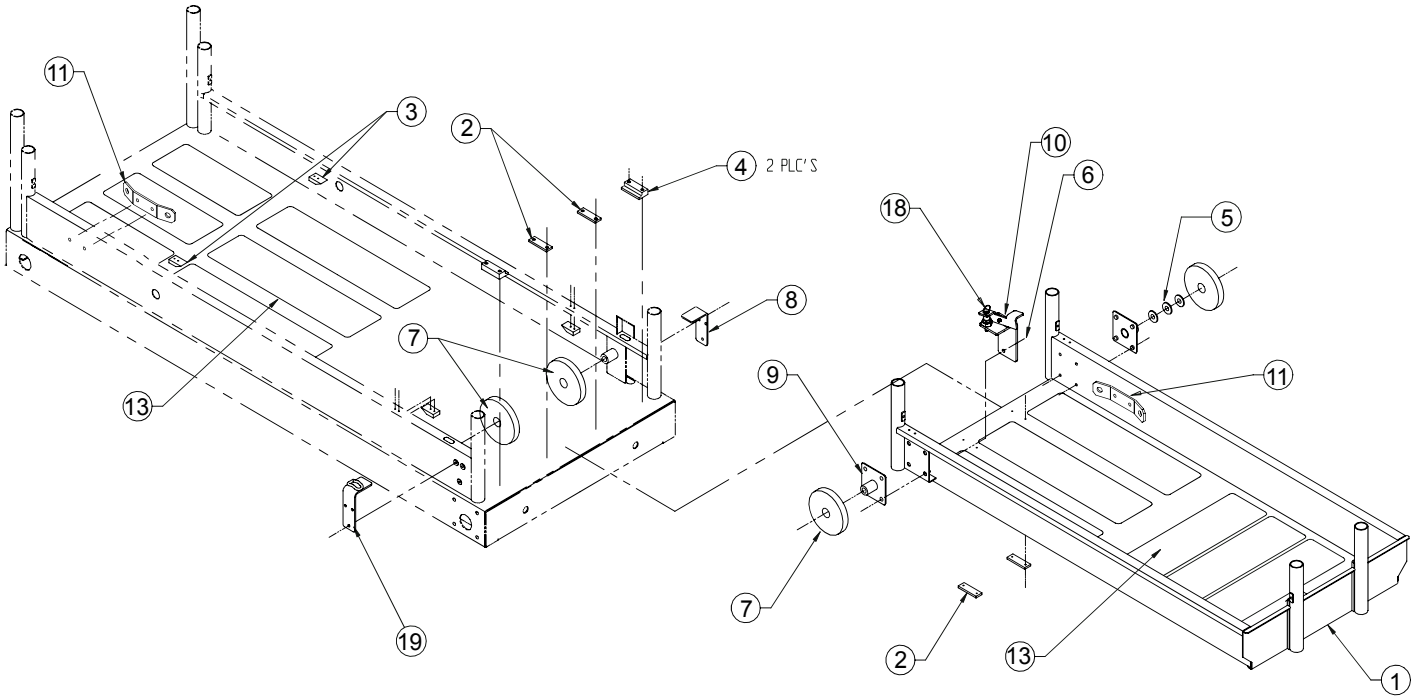


EXTENSION DECK ASSEMBLY

Item	Part	Description	Qty.
1	066251-026	WELDMENT DECK EXT.	1
2	502148-000	WEAR PAD	4
3	502129-000	STOP	4
4	502148-001	WEAR PAD	2
5	502097-000	WASHER SAE 1 1/4 PLATED	6
6	502145-000	LEVER BRACKET	1
7	502132-001	PLATFORM ROLLER	4
8	504138-000	BRACKET	1
9	504021-000	WELDMENT ROLLER MOUNT	2
10	502141-000	DECKLOCK ASSY-SLIDEOUT	1
11	057094-001	HARNESS HARDPOINT	2
12	066260-026	WELDMENT EXT. RAIL ASSY	1
13	027966-005	SAFETY WALK 6 X 24	12
14	505300-006	SWING BAR	1

Item	Part	Description	Qty.
15	505300-010	EX-DECK UPPER L/H RAIL	1
16	505300-008	EX-DECK UPPER R/H RAIL	1
17	505300-000	EX-DECK LOWER RAIL	1
18	003570-005	PULL PIN WITH KEY RING	1
19	504138-000	BRACKET WELDMENT	1

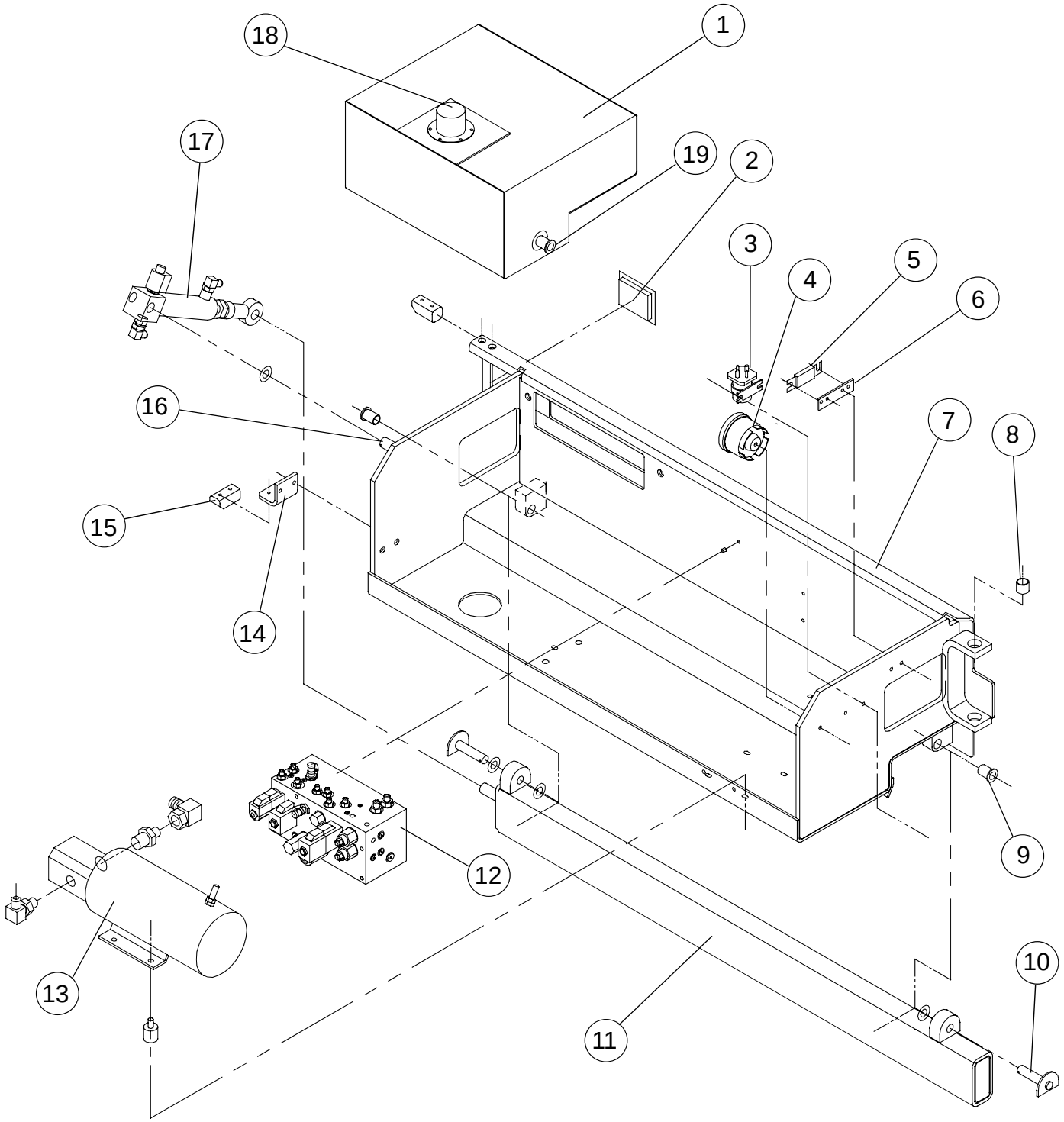




CONTROL MODULE ASSEMBLY

Item	Part	Description	Qty.
1	504128-001	HYDRAULIC TANK	1
2	062791-002	LATCH	1
3	502588-000	ALARM	1
4	502489-000	LINE CONTACTOR	1
5	510066-000	MAIN FUSE	1
6	510065-000	MOUNTING PLATE, FUSE	1
7	066310-026	WDMENT, CONTROL MODULE	1
8	504126-000	BUSHING, MODULE HINGE	2
9	504135-000	BUSHING, POTHOLE PIVOT	2
10	504153-001	PIVOT PIN, POTHOLE WDMENT	2

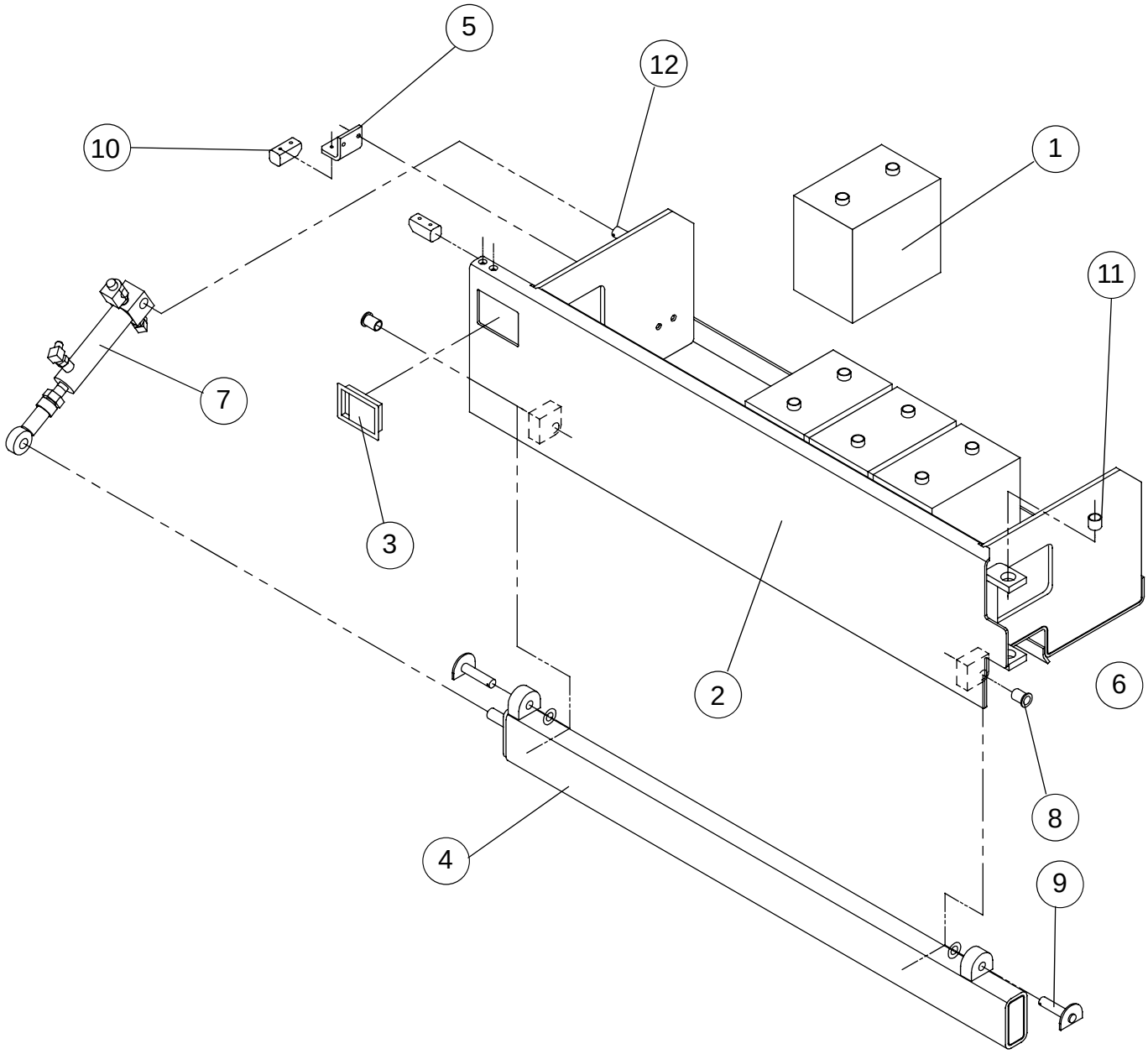
Item	Part	Description	Qty.
11	066735-001	WELDMENT, POTHOLE	1
12	503800-001	MAIN MANIFOLD BLOCK	1
13	504536-000	PUMP ASSEMBLY	1
14	504133-000	BRACKET, GUIDE PAD ANGLE	1
15	504134-000	GUIDE PAD	1
16	502152-000	SPLIT PIN	1
17	504132-000	HYD CYLINDER, POTHOLE	1
18	057534-000	FILLER, & DIPSTICK (CAP)	1
19	058359-000	SUCTION FILTER	1



POWER MODULE ASSEMBLY

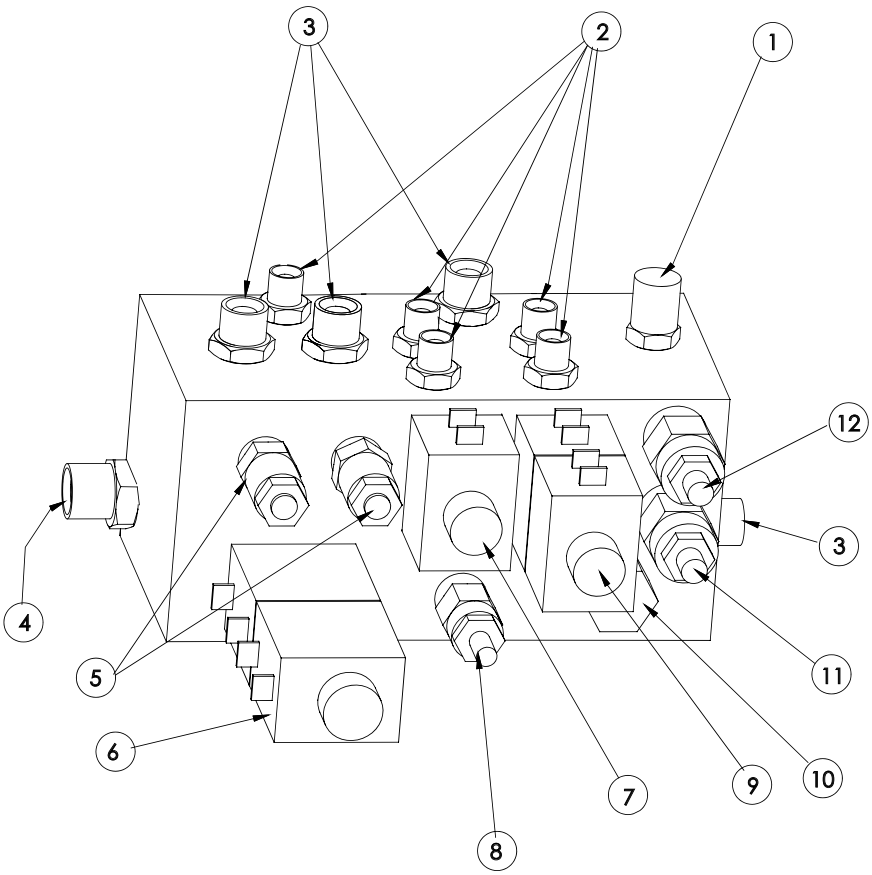
Item	Part	Description	Qty.
1	501074-000	BATTERY	4
2	066309-011	WELDMENT, DOOR MODULE	1
3	062791-002	LATCH	1
4	066735-001	WELDMENT, POTHOLE	1
5	504133-000	BRACKET, GUIDE PAD ANGLE	1
6	066713-002	HINGE	1
7	504132-000	HYDRAULIC CYLINDER, POT-HOLE	1

Item	Part	Description	Qty.
8	504135-000	BUSHING, POTHOLE PIVOT	2
9	504153-001	PIVOT PIN, POTHOLE	2
10	504134-000	GUIDE PAD	2
11	504126-000	BUSHING, MODULE PIVOT	2
12	502152-000	SPLIT PIN	1



HYDRAULIC MANIFOLD ASSEMBLY 503800-001

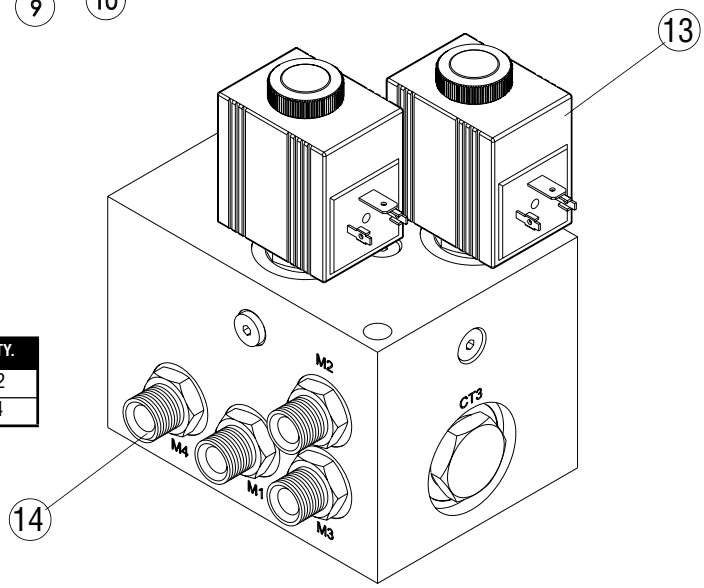
Item	Part	Description	Qty.
1		TEST PORT	1
2	058358-000	FITTING, 1/4" - 1/4" MALE/MALE	5
3	057122-000	FITTING, 3/8" - 3/8" MALE/MALE	4
4	057377-000	FITTING, 1/2" - 1/2" (MALE/MALE)	1
5	503803-000	CROSS LINE RELIEF VALVE (DRIVE)	1
6	503804-000	VALVE, SOLENOID (DRIVE)	1
7	503805-000	VALVE, SOLENOID (DRIVE/LIFT)	1
8	503807-000	PRESSURE RELIEF (MAIN LIFT)	1
9	503808-000	VALVE, SOLENOID (STEERING)	1
10	503809-000	FLOW RESTRICTOR (STEERING)	1
11	058728-000	RELIEF VALVE (STEERING)	1
12	503810-000	RELIEF VALVE (MAIN RELIEF)	1



Hydraulic Block (Series / Parallel)

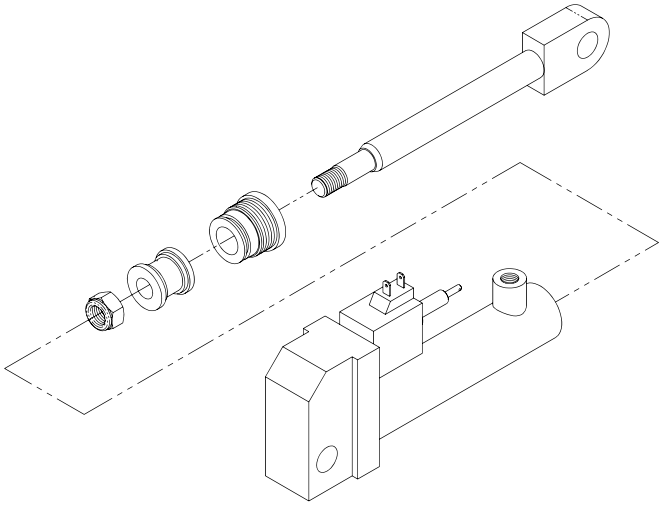
504151-000

Item	Part	Description	QTY.
13	500303-000	SOLENOID COIL 18V	2
14	057122-000	HYDRAULIC FITTING, 3/8 X 3/8 MALE MALE	4



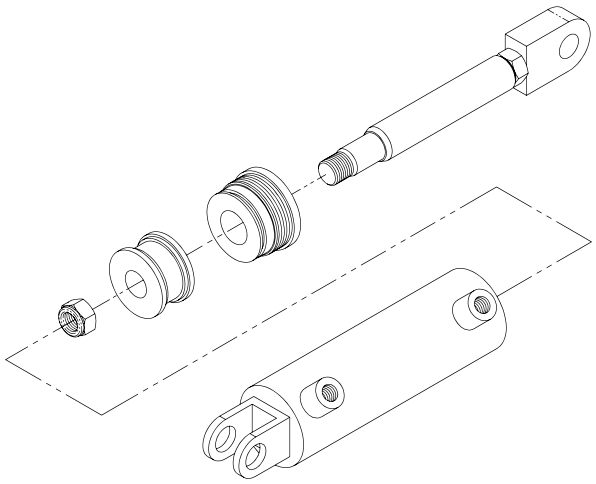
POTHOLE CYLINDER ASSEMBLY
504132-000

Part	Description	Qty.
504132-010	SEAL KIT	REF



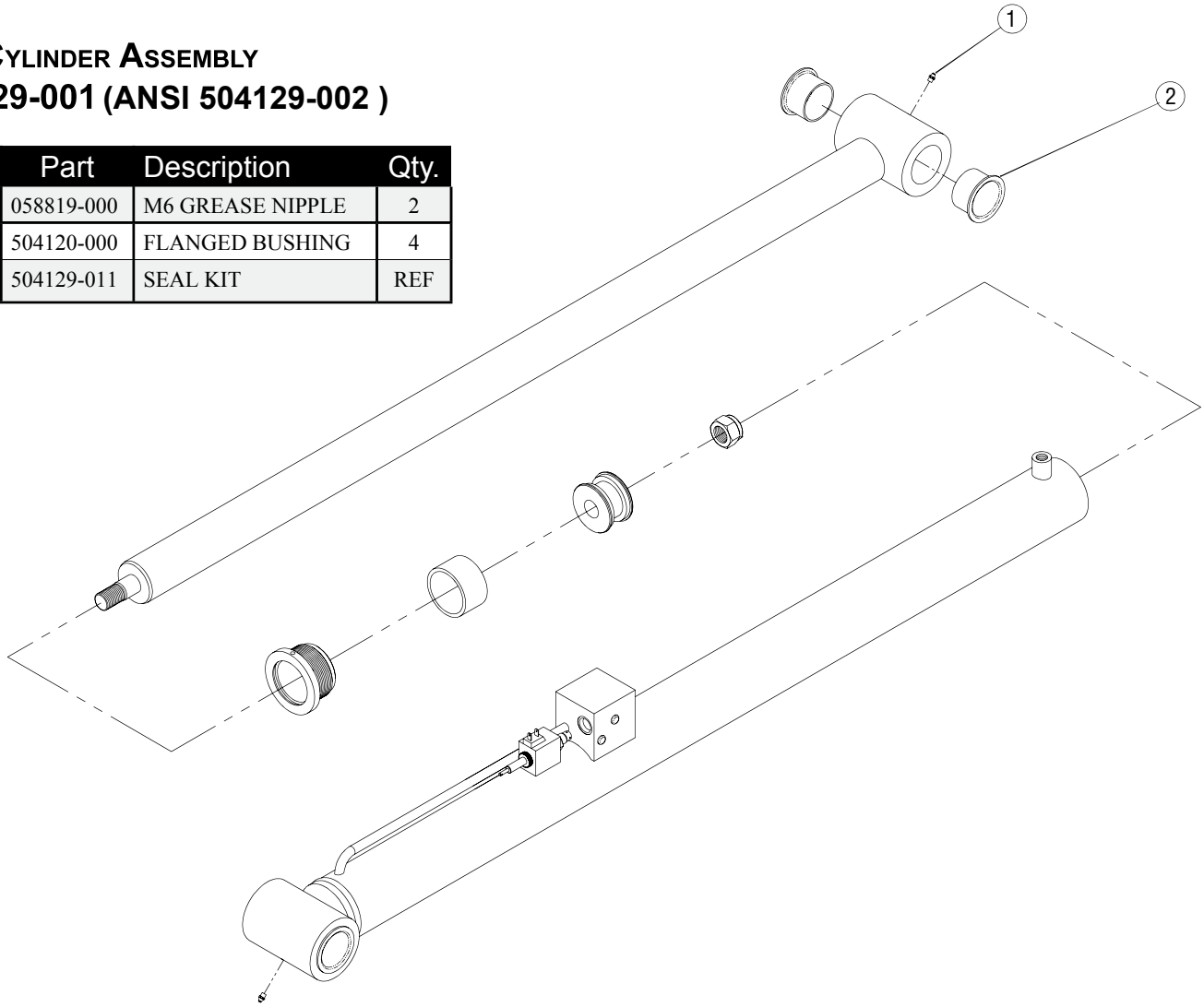
STEERING CYLINDER ASSEMBLY
504148-001

Part	Description	Qty.
504148-011	SEAL KIT	REF



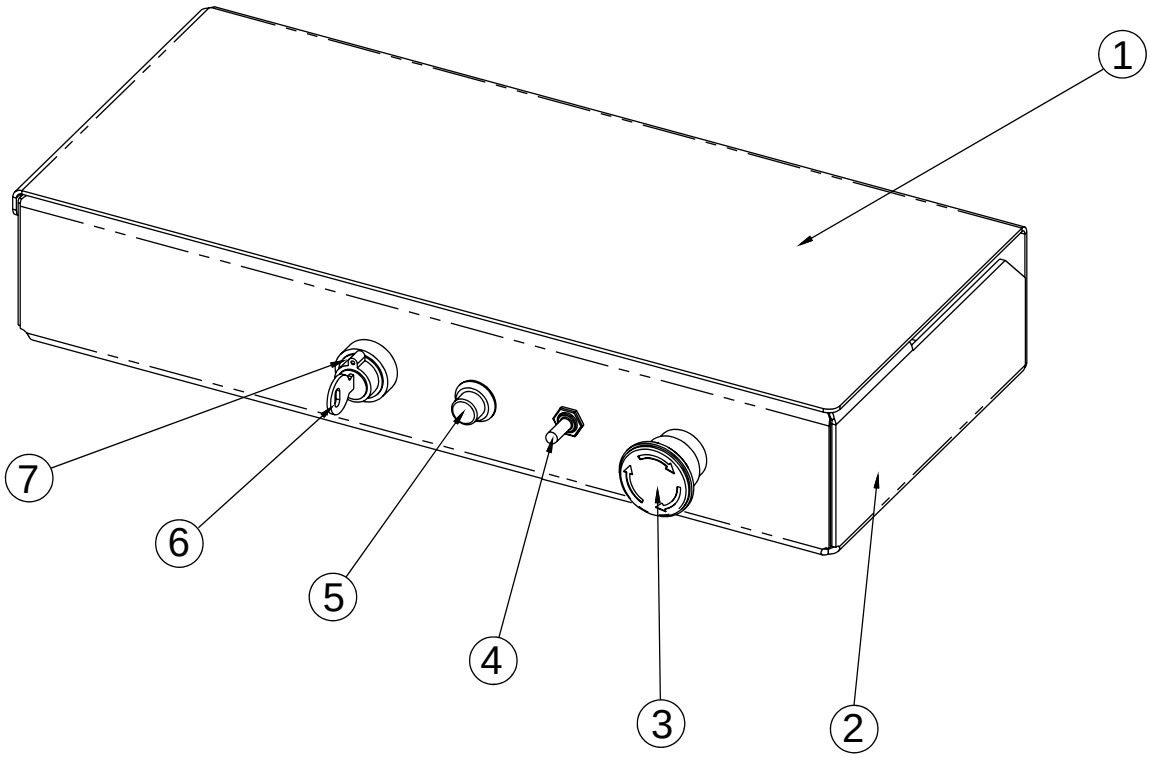
LIFT CYLINDER ASSEMBLY
504129-001 (ANSI 504129-002)

Item	Part	Description	Qty.
1	058819-000	M6 GREASE NIPPLE	2
2	504120-000	FLANGED BUSHING	4
	504129-011	SEAL KIT	REF



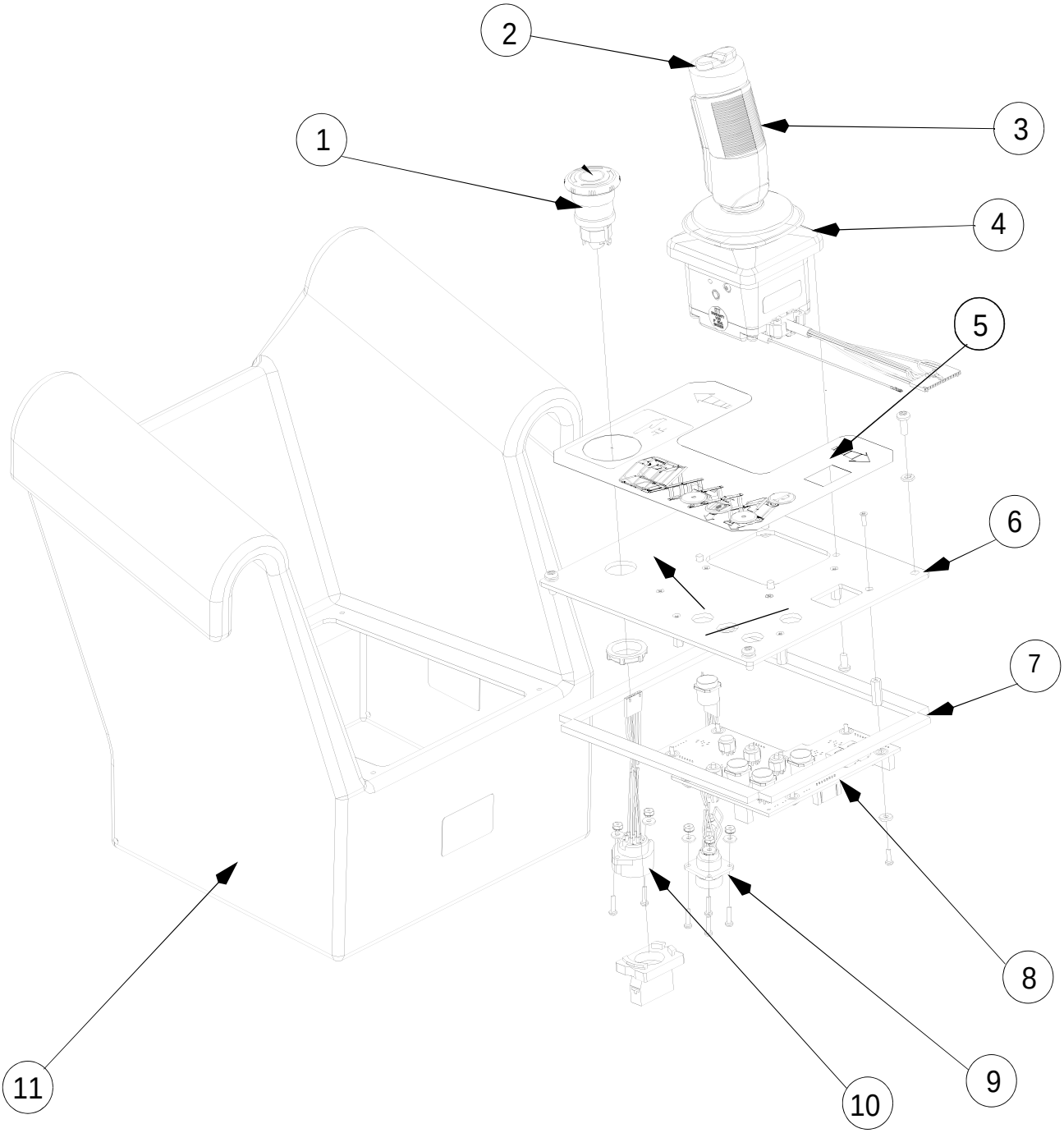
LOWER CONTROL BOX ASSEMBLY

Item	Part	Description	Qty.
1	504141-001	COVER, LOWER CONTROL BOX	1
2	504142-000	BOX, LOWER CONTROL BOX	1
3	501867-000	EMERGENCY STOP BUTTON	1
4	502251-000	TOGGLE SWITCH	1
5	502250-000	ENABLE BUTTON	1
6	501866-000	KEY	1
7	501866-001	KEY SWITCH	1

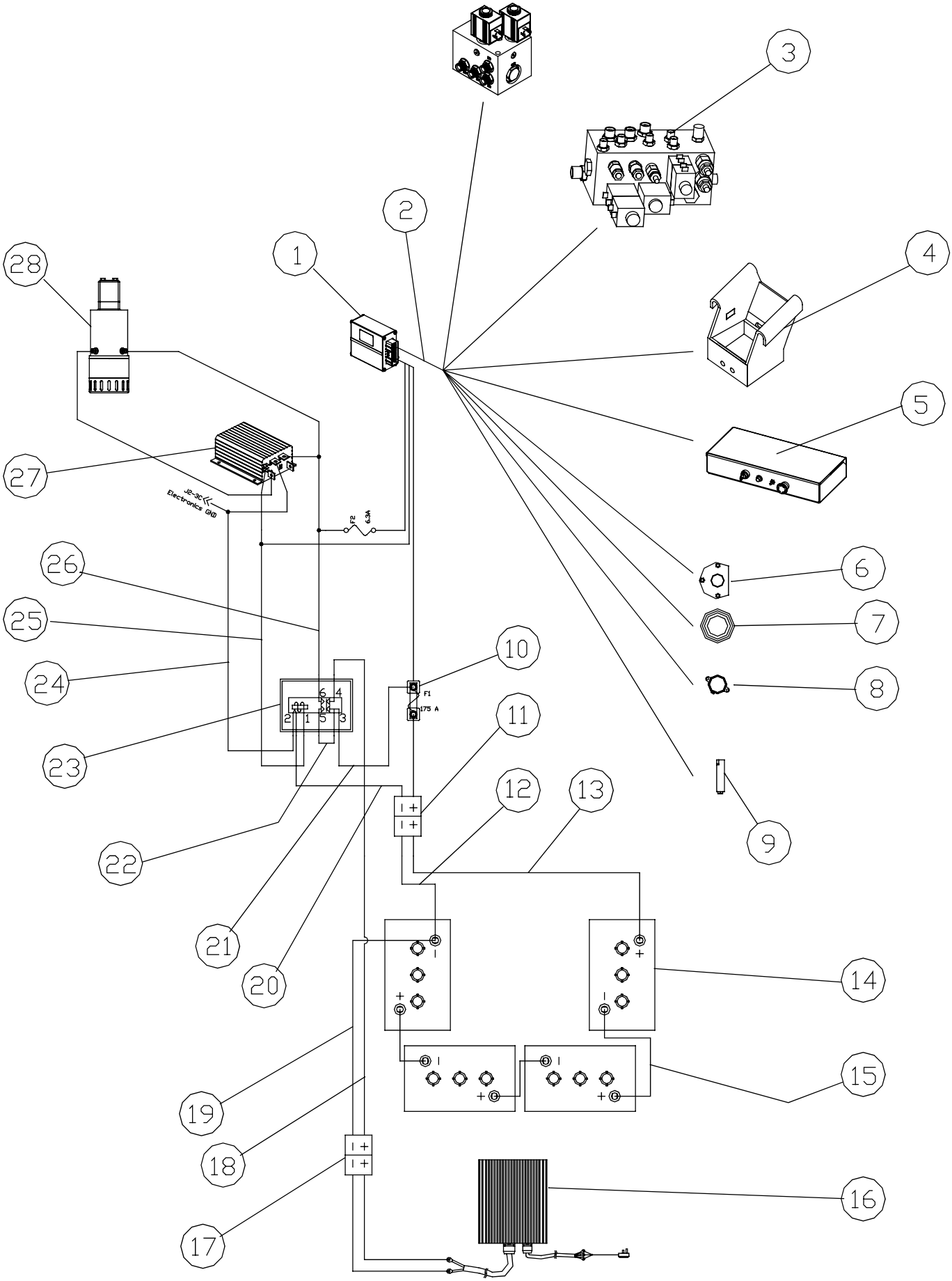


UPPER CONTROL BOX ASSEMBLY 504349-000

Item	Part	Description	Qty.
1	501867-000	EMERGENCY STOP BUTTON	1
2	501882-002	RUBBER BOOT, STEERING	1
3	501882-000	JOYSTICK	1
4	501882-001	RUBBER BOOT, JOYSTICK	1
5	502486-000	DECAL	1
6	501592-000	MOUNTING PLATE	1
7	502591-000	SEAL	1
8	502453-000	CIRCUIT BOARD	1
9	502587-001	SOCKET, MAIN HARNESS	1
10	502605-000	SOCKET, OVERLOAD	1
11	502496-000	UCB, BOX ONLY	1



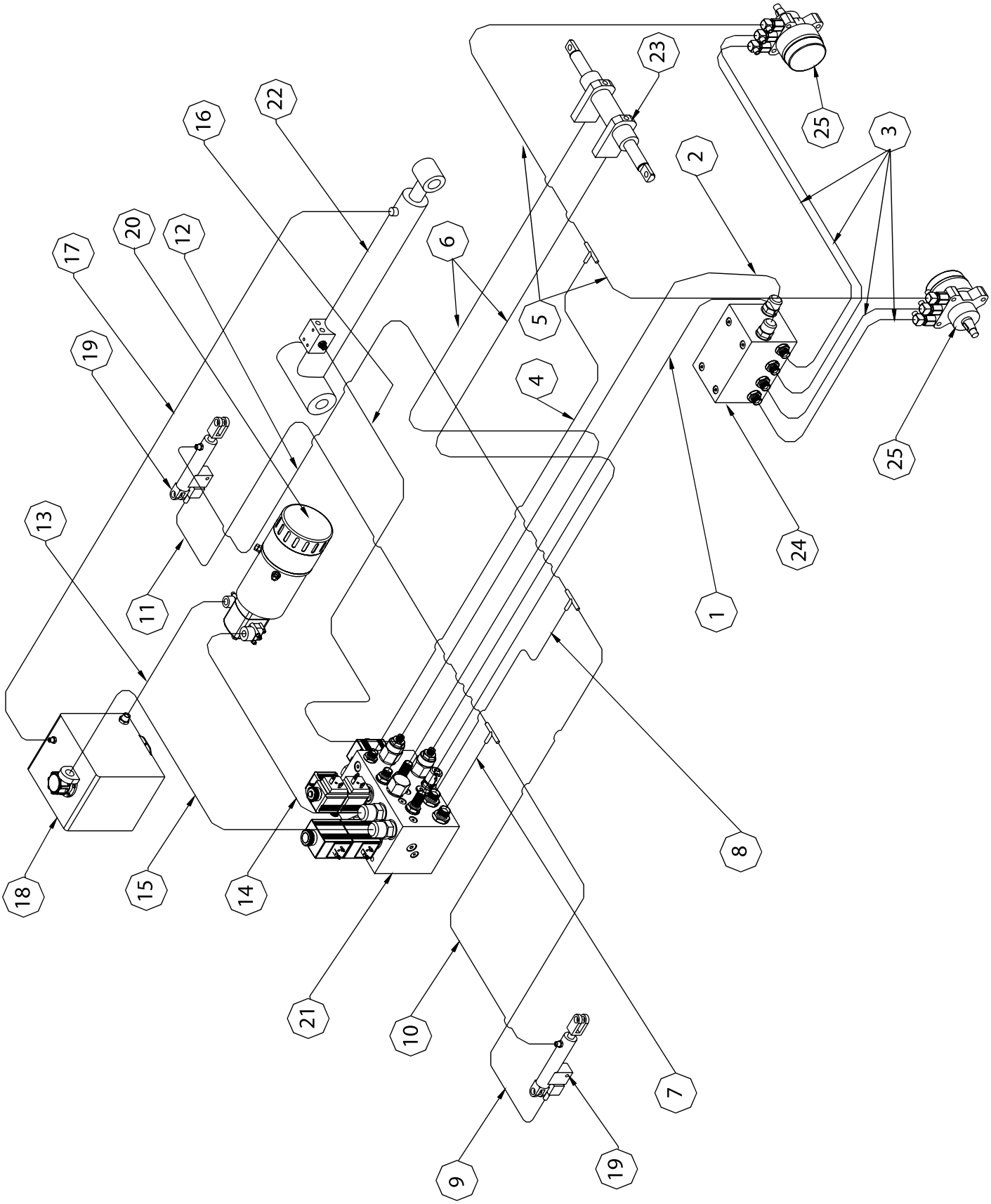
ELECTRICAL ASSEMBLY



ELECTRICAL ASSEMBLY

Item	Part	Description	Qty.
1	502483-000	ECU	1
2	502531-000	J1 HARNESS	1
3	503800-001	MAIN MANIFOLD BLOCK	1
4	504349-000	UPPER CONTROLS	1
5	505006-000	LOWER CONTROLS	1
6	505566-001	TILT SENSOR	1
7	501868-000	HORN	1
8	502588-000	ALARM	1
9	505072-000	PROXIMITY SENSOR	1
10	502494-000	FUSE	1
11	058937-000	BATTERY DISCONNECT PLUG	1
12	502594-000	HARNESS, BATTERY DISCONNECT - BATT (-)	1
13	502595-000	HARNESS, BATTERY DISCONNECT - BATT (+)	1
14	501074-000	BATTERY	4
15	502596-000	HARNESS, BATTERY INTERCONNECT	3
16	069199-001	CHARGER	1
17	058783-000	CHARGER DISCONNECT PLUG	1
18	502597-000	HARNESS, CHARGER DISCONNECT (+) - LINE CON4	1
19	502598-000	HARNESS, CHARGER DISCONNECT (-) - BATT (-)	1
20	502599-000	HARNESS, CHARGER DISCONNECT (-) - LINE CON2	1
21	502600-000	LINE CONTACTOR 3 - FUSE	1
22	502601-000	LINE CONTACTOR 5 - LINE CONTACTOR 3	1
23	502489-000	LINE CONTACTOR	1
24	502602-000	LINE CONTACTOR 2 - MOTOR CONT B-	1
25	502603-000	LINE CONTACTOR 1 - MOTOR CONT ENABLE	1
26	502604-000	LINE CONTACTOR 6 - PUMP MOTOR	1
27	502492-000	MOTOR CONTROLLER	1
28	504536-000	PUMP MOTOR	1

HYDRAULIC ASSEMBLY

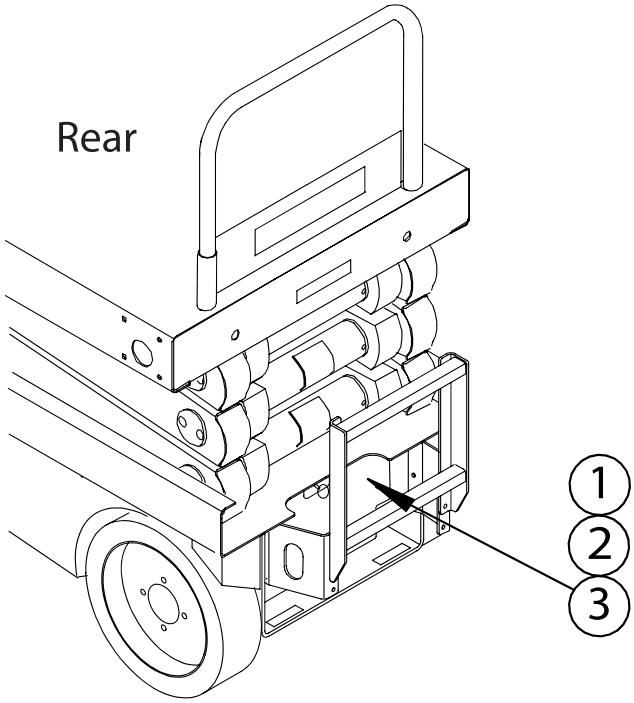


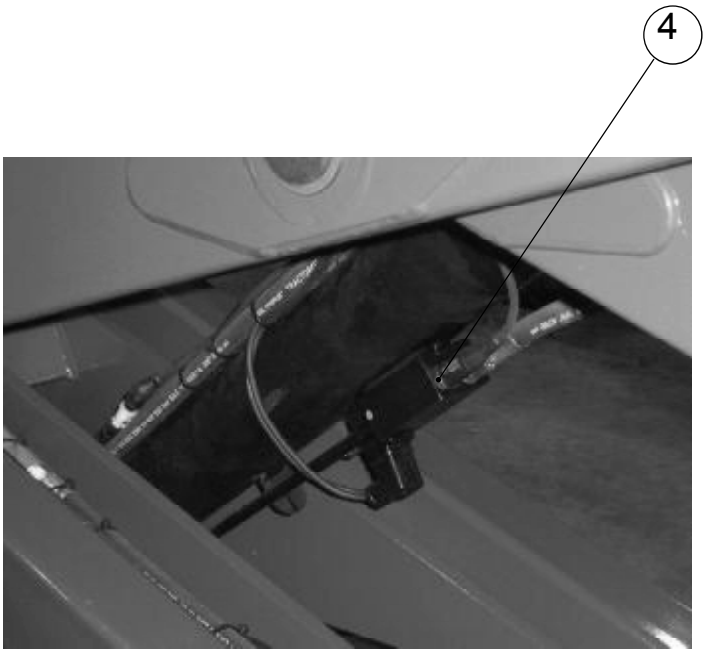
HYDRAULIC ASSEMBLY

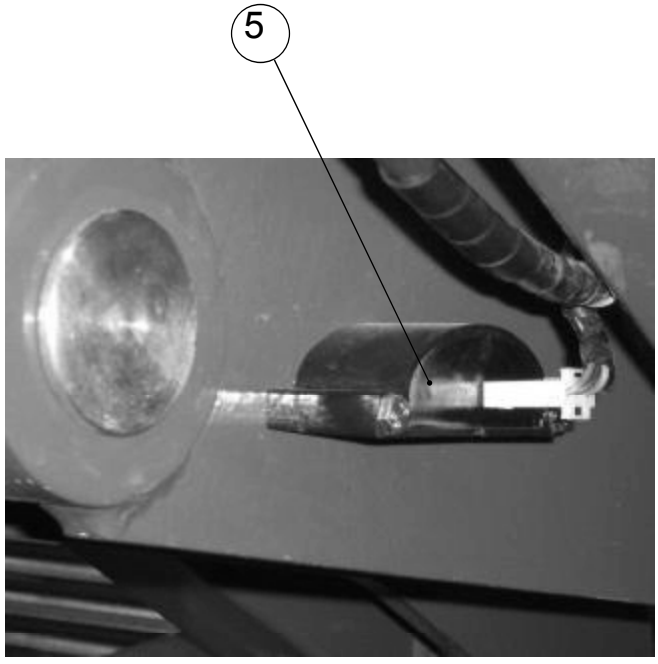
Item	Part	Description	Qty.
1	509420-000	HYDRAULIC HOSE, BLOCK - SERIES/PARA BLOCK	1
2	509421-000	HYDRAULIC HOSE, BLOCK D2 - SERIES/PARA D2	1
3	509416-000	HYDRAULIC HOSE,SERIES/PARA BLOCK - MOTORS	4
4	509417-000	HYDRAULIC HOSE, BLOCK - BRAKE TEE	1
5	509422-000	HYDRAULIC HOSE, BRAKE TEE - MOTORS	2
6	509423-000	HYDRAULIC HOSE, BLOCK - STEERING CYLINDER	2
7	509424-000	HYDRAULIC HOSE, BLOCK - POTHOLE TEE	1
8	509425-000	HYDRAULIC HOSE, BLOCK - POTHOLE TEE	1
9	509418-000	HYDRAULIC HOSE, TEE (RHS) - POTHOLE CYL	1
10	509427-000	HYDRAULIC HOSE, TEE (RHS) - POTHOLE CYL	1
11	509419-000	HYDRAULIC HOSE, TEE (LHS) - POTHOLE CYL	1
12	509426-000	HYDRAULIC HOSE, TEE (LHS) - POTHOLE CYL	1
13	509428-000	HYDRAULIC HOSE, TANK - PUMP (SUCTION)	1
14	509429-000	HYDRAULIC HOSE, PUMP - BLOCK (PRESSURE)	1
15	509430-000	HYDRAULIC HOSE,BLOCK - FILTER (RETURN)	1
16	509431-000	HYDRAULIC HOSE, MANIFOLD - LIFT CYLINDER	1
17	509432-000	HYDRAULIC HOSE, LIFT CYLINDER DRAIN	1
18	504128-001	HYDRAULIC TANK	1
19	504132-000	HYDRAULIC CYLINDER (POTHOLE)	2
20	504536-000	PUMP ASSEMBLY	1
21	503800-001	BLOCK, MAIN MANIFOLD	1
22	504129-001	HYDRAULIC CYLINDER, LIFT	1
23	504148-001	HYDRAULIC CYLINDER, STEER	1
24	504151-000	HYDRAULIC BLOCK, SERIES / PARALLEL	1
25	114055-002	MOTOR, HYDRAULIC	2

OVERLOAD ASSEMBLY

Item	Part	Description	Qty.
1	503950-001	MOUNTING PLATE, ELECTRICAL BOX	1
2	504561-002	MOUNTING PLATE, CIRCUIT BOARD	1
3	504558-000	CIRCUIT BOARD	1
4	504560-000	PRESSURE TRANSDUCER	1
5	504559-000	ANGLE TRANSDUCER	1



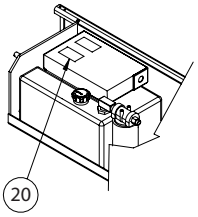




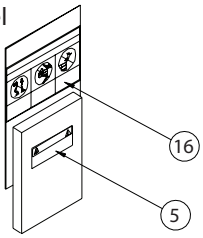
NOTES:

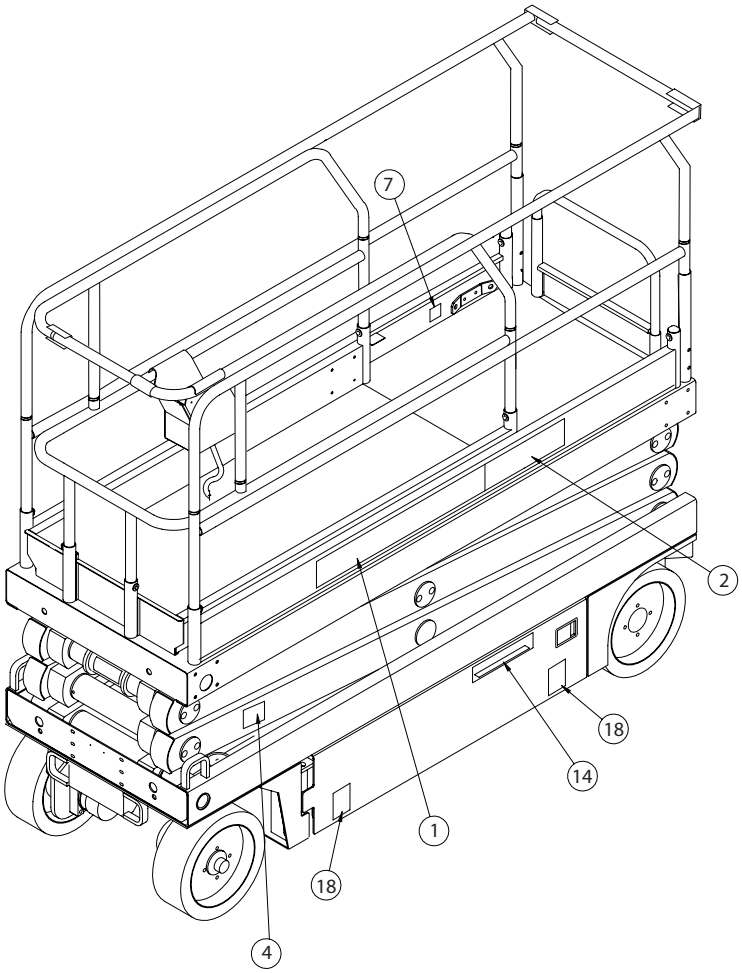
CE DECALS

Control Module

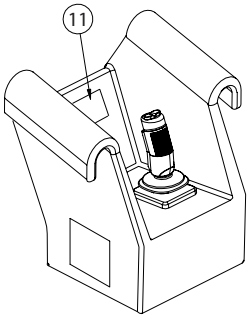


Front Panel

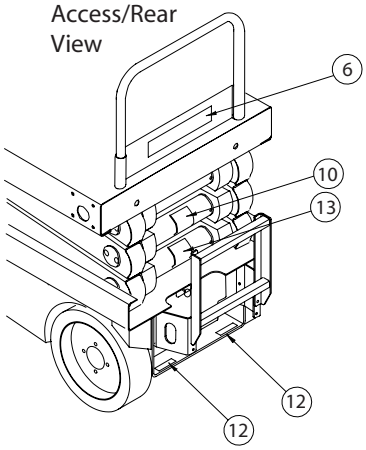


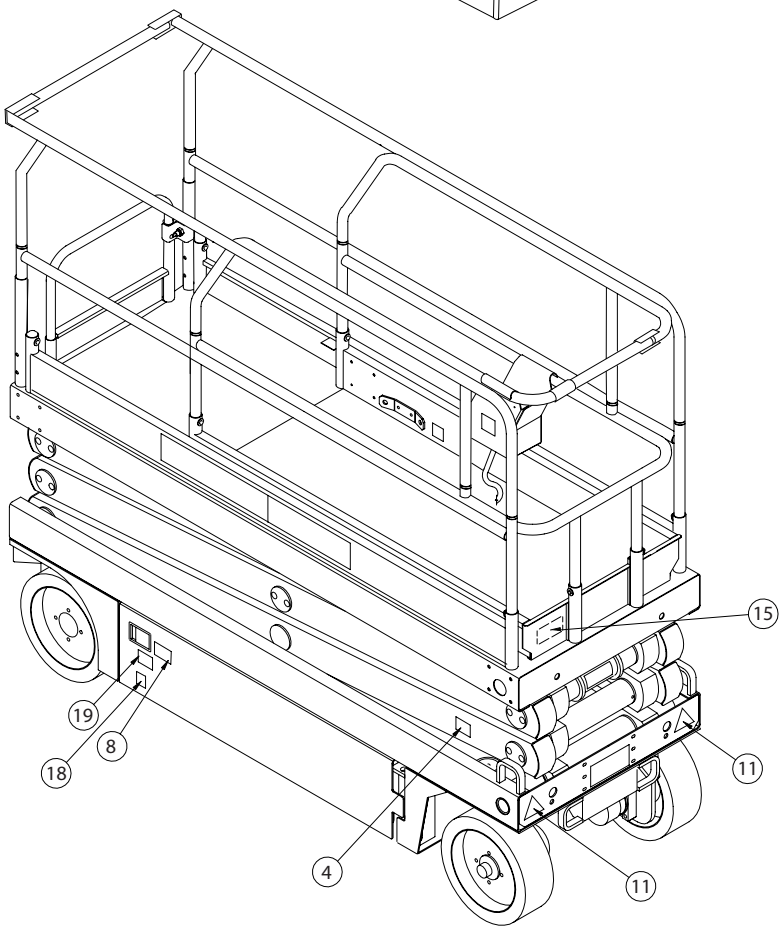


Upper Control Box

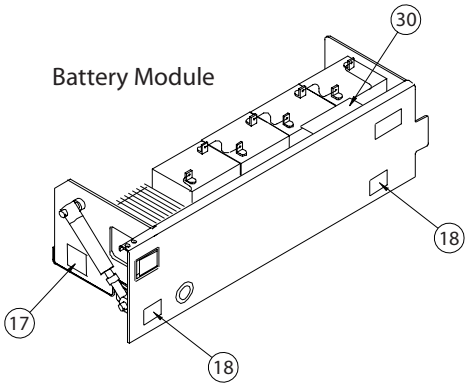


Access/Rear View





Battery Module



CE DECALS

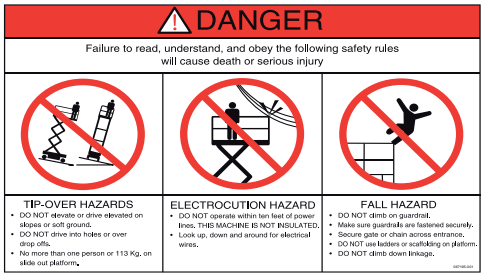
596295-000 x2

508339-000 x2

9

066556-900 x2

16

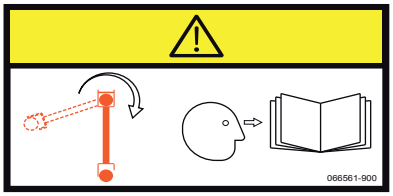

DANGER
Failure to read, understand, and obey the following safety rules will cause death or serious injury
TIP-OVER HAZARDS
ELECTROCUTION HAZARD
FALL HAZARD

067195-001

3

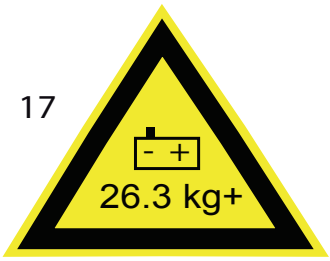
101210-000

10



066561-900

17



062562-951 x4

4

503724-000 x2

11

100102-900

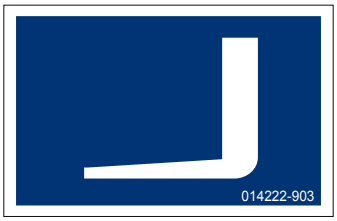
18

501453-000 x4

5

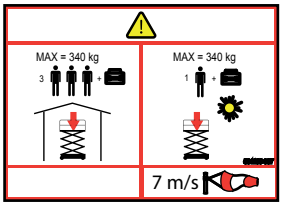
100076-901

12



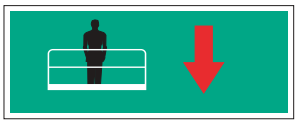
014222-903 x4

6



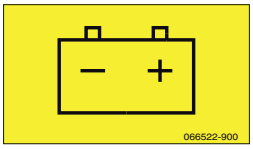
6) 504199-007

13



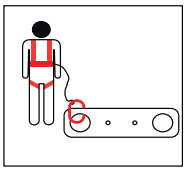
502480-000

19



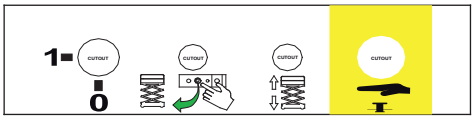
066522-900

7



068635-001 x2

14



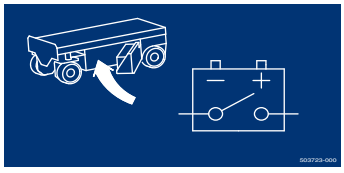
503721-000

20

HYDRAULIC FLUID
HYDRULIKOEL
HUILE HYDRAULIQUE
FLUIDO HIDRAULICO

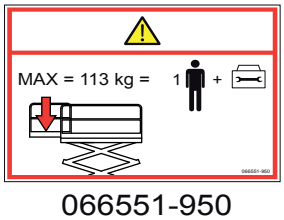
060197-001

8



503723-000

15



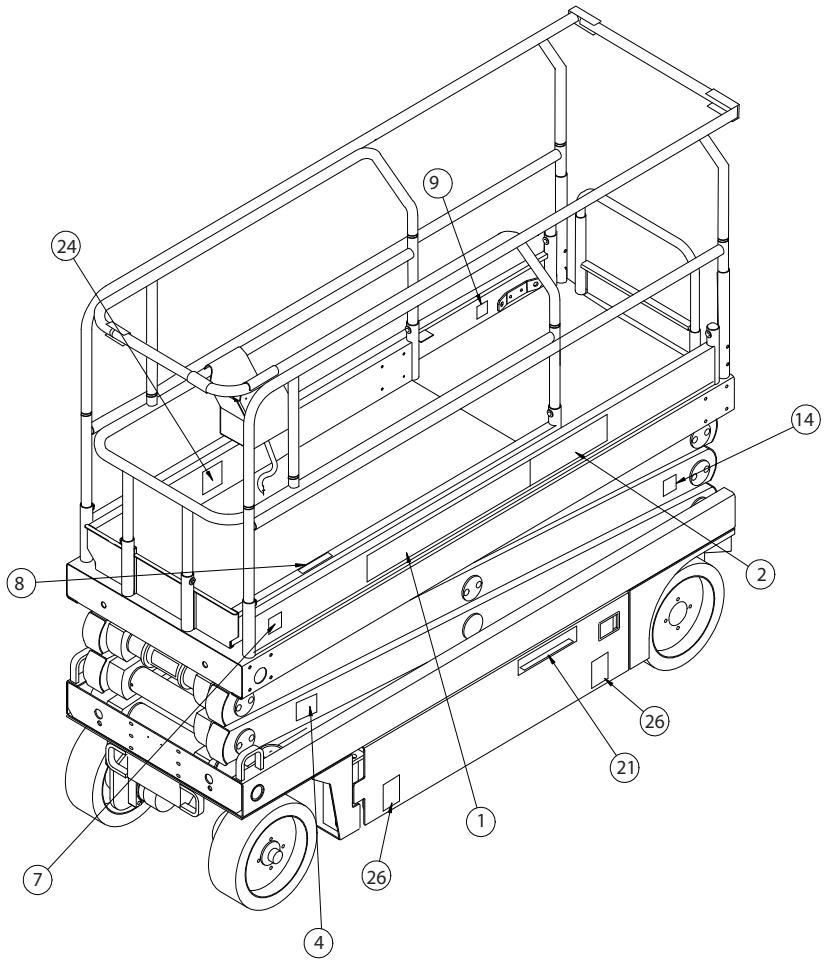
066551-950

21

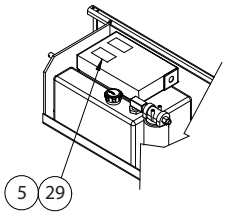
BATTERY
MAINTAIN BATTERY FLUID
AT RECOMENDED LEVEL

005221-000

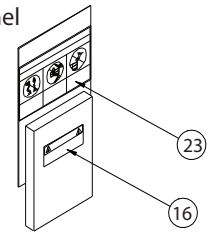
ANSI DECALS



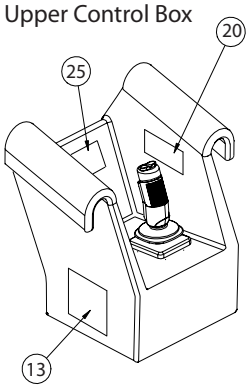
Control Module



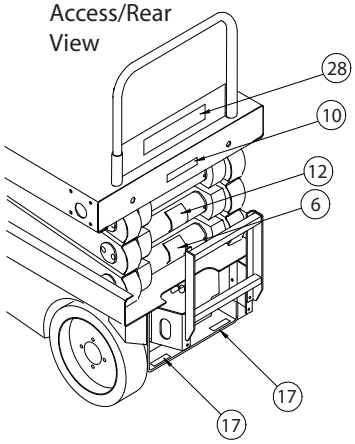
Front Panel

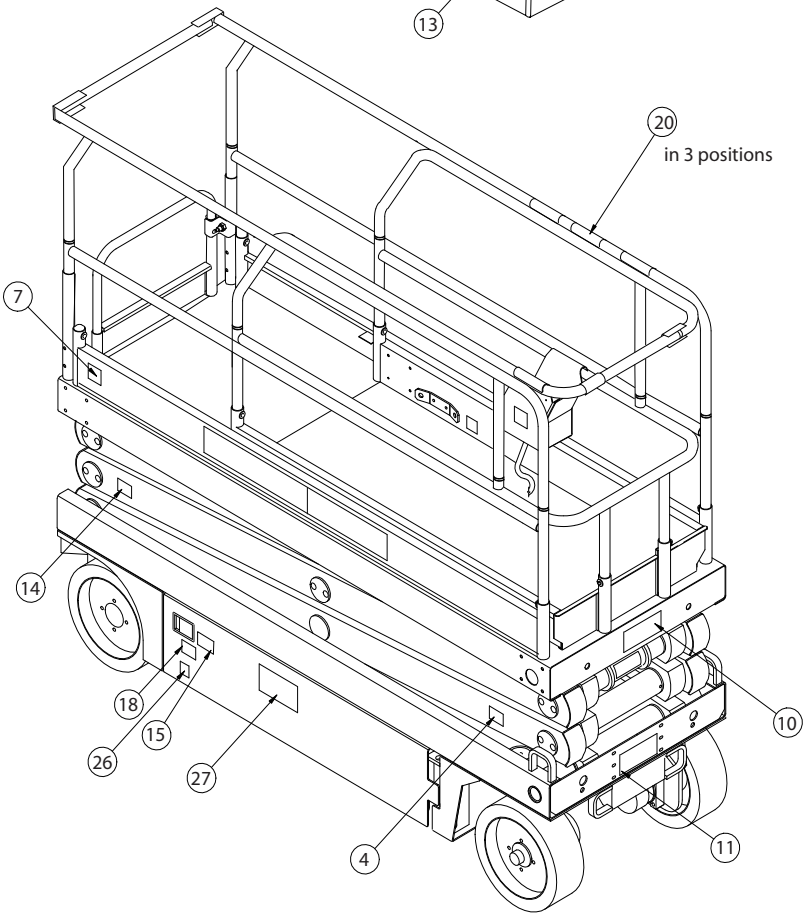


Upper Control Box

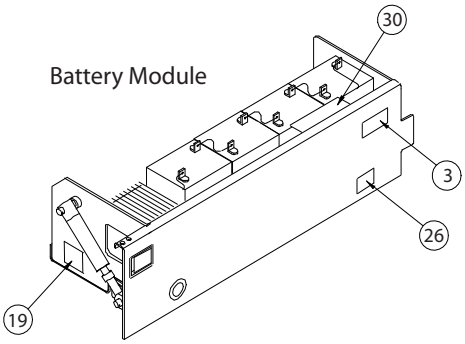


Access/Rear View





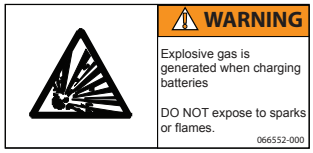
Battery Module



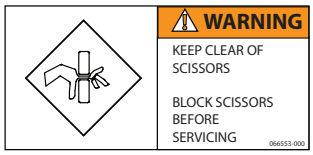
ANSI DECALS

1 Snorkel
596295-000 x2

2 S2633
508339-000 x2

3 

066552-000

4 

066553-000 x2

5
CAUTION
Limit switches, pressure switches, level sensors and relief valves are adjusted at the factory.
Proper adjustment is required for safe operation.
DO NOT adjust without consulting manufacturer.
066555-000
066555-000

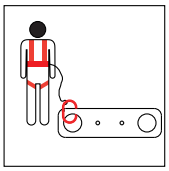
6

066558-000

7

101250-005 x2

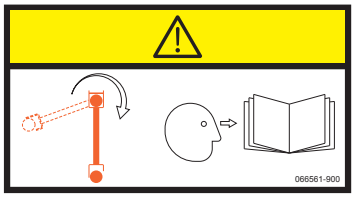
8 POWER TO PLATFORM
068639-000

9 
068635-001 x2

10 MEETS OR EXEEDS THE REQUIREMENTS OF ANSI A92.6 1999
061220-002

11

066556-000

12 

066561-900

13

300699

14

101252-005

15

107051-000

16

10076-001

17

014222-003 x2

18 BATTERY CHARGER
066522-000

19

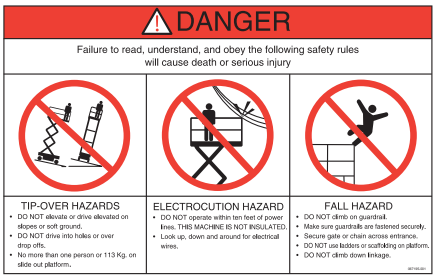
062562-001

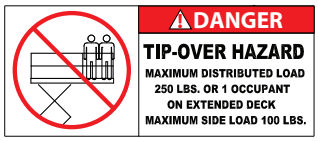
20
057507-010 x4

21

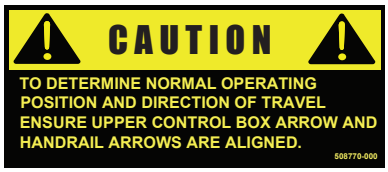
066559-000

22
CAUTION
BEFORE operating this equipment read, understand and then follow all safety information in instruction manual.
066554-000
066554-000

23 
DANGER
Failure to read, understand, and obey the following safety rules will cause death or serious injury
TIP-OVER HAZARDS
ELECTROCUTION HAZARD
FALL HAZARD
066550-000

24 

101251-000

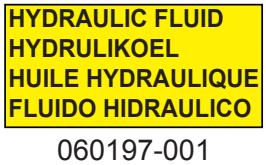
25 
CAUTION
TO DETERMINE NORMAL OPERATING POSITION AND DIRECTION OF TRAVEL ENSURE UPPER CONTROL BOX ARROW AND HANDRAIL ARROWS ARE ALIGNED.
508770-000
508770-000

26

066556-001 x4

27
WARNING
DO NOT REPLACE COMPONENTS CRITICAL TO MACHINE STABILITY, SUCH AS BATTERIES AND WHEEL EQUIPMENT, WITH LIGHTER WEIGHT OR NON-FACTORY APPROVED SUBSTITUTES
500771-000

28
WARNING
All personnel shall be qualified, carfully read, undrestand and obay all safety rules, operating instructions and manual of reponsibilities before performing maintenance on or operating any mobile elevating work platform.
508772-000

29 

060197-001

30

005221-000

Local Distributor:

Distributeur local:

El Distribuidor local:

Snorkel International Inc.
P.O. Box 1160
St. Joseph, MO 64502-1160 USA

TEL: + 1-800-255-0317

www.snorkelusa.com

Serial number 500422-103